VeseNET HomePlug Powerline Ethernet Bridge User Manual

Models Covered:

PLA-85-E and PLA-14-E
Wall-Plug

3-Port Desktop
PLA-85-3E

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FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against radio interference in a commercial environment. This equipment can generate, use and radiate radio frequency energy and, if not installed and used in accordance with the instructions in this manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will b required to take whatever measure are necessary to correct the interference.

CE conformity

These products comply with the technical requirements of the 1999/5/EC Directive (R&TTE) and the other relevant provisions of the FTEG, and they are designed for use in the EU and Switzerland.
The products are class A equipment. This equipment may cause interference with radio waves in home use; if this occurs the operator may be required to take corrective action.
The CE and compliance certificate is available for download from the Solwise web site

Product warranty does not apply to damage caused by lightning, power surges or wrong voltage usage.

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Chapter 1: Introduction to the HomePlug Powerline Ethernet Bridge

Overview

Thank you on the purchase of a VeseNET HomePlug Ethernet Bridge. Most of us don't enjoy buying long and expensive Ethernet cables or pulling the cables from one place to another, but the VeseNET HomePlug Bridge is one of the easiest ways to enjoy home or small business networking. Users can now experience a total network solution with the HomePlug Bridge without having to run network cables or worry about the fragility and security issues of wireless networks. The HomePlug Ethernet Bridge operates on the HomePlug Powerline Specification 1.0 standard, providing speeds of up to 14Mbps or 85Mbps bandwidth (dependant upon model) over home mains wiring. Since the home power lines are the most pervasive medium in households with multiple outlets in every room, the HomePlug Ethernet Bridge allows multiple home desktops and notebooks to be networked to share internet connection, printers, files, and play games without any additional wiring.

The installation of the Ethernet Bridge only requires that a 10/100Mbps Network Adapter is installed on the computers. This makes the HomePlug Ethernet Bridge compatible with any device including *Mac, Windows*, and *UNIX* machines.

For security, all HomePlug devices are equipped with 56-bit DES encryption. The private home power grid plus encryption makes HomePlug significantly more secure than competing technologies.

The HomePlug Ethernet Bridge is the best solution for No-New-Wires home Networking. With easy Plug and Play installation, and the reliability of VeseNET HomePlug Ethernet's products, the HomePlug Ethernet Bridge is the best solution for high speed networking.

Features

- Up to 14 or 85 Mbps bandwidth over standard home power lines
- Estimated range of 300 meters in wall power lines
- No problem for the HomePlug signal passing through circuit breaker
- 56-bit DES encryption assure data security
- Encryption done by hardware, with no sacrifice on bandwidth
- Uses IEEE802.3 computer interface
- Plug-and-Play installation
- HomePlug Powerline Specification 1.0 compliant

Package Contents

- 1 VeseNET HomePlug Powerline Ethernet Bridge Unit
- 1 HomePlug Quick Start
- 1 HomePlug User Manual (on CD)
- 1 Installation CD

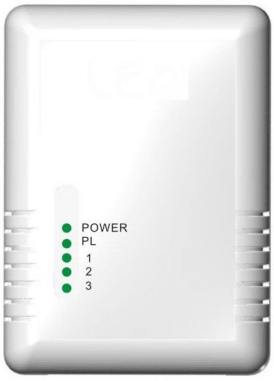
- 1 Power Cable (3 port desktop model only)
- 1 CAT5/RJ45 Ethernet cable

System Requirements

- At least 2 HomePlug devices
- Available Ethernet port each computer or network
- Available empty power outlet
- Standard home power line wiring
- CD-ROM drive

Panel

Top

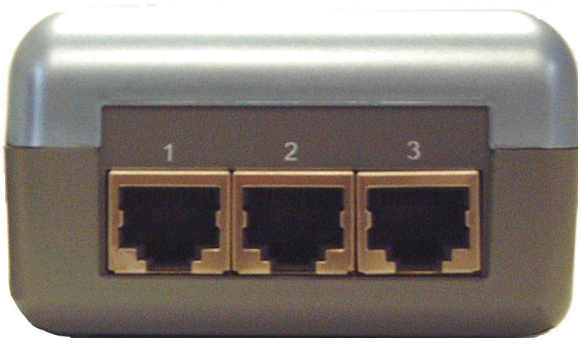


PL: On Detect other HomePlug devices on the same PowerLine network
Off Did not detect any other HomePlug devices on the same PowerLine network

Eth LED (1,2,3 for desktop unit): Act / Link for Ethernet

Blinking: Ethernet activity
Lit: detect Ethernet connection

End



Chapter 2: Installation

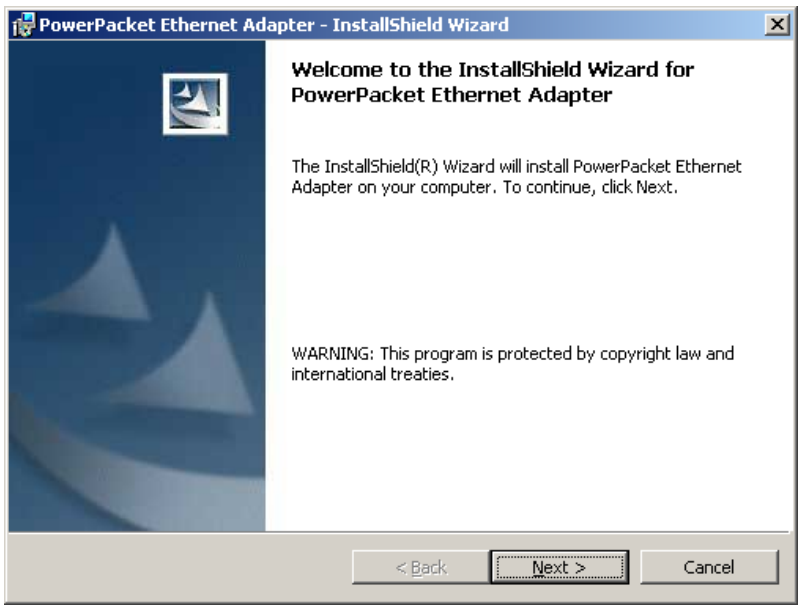
Overview

The installation of the HomePlug Ethernet Bridge will only take minutes. No setting up for long wires through out the house. Just simply install the software CD that is included in the box and after installation, physically plug the unit into the computer and the wall outlet. Users will have options to adjust its security functions and the platform of the network once everything is installed properly. For further assistance, please read our Frequently Asked Questions section.

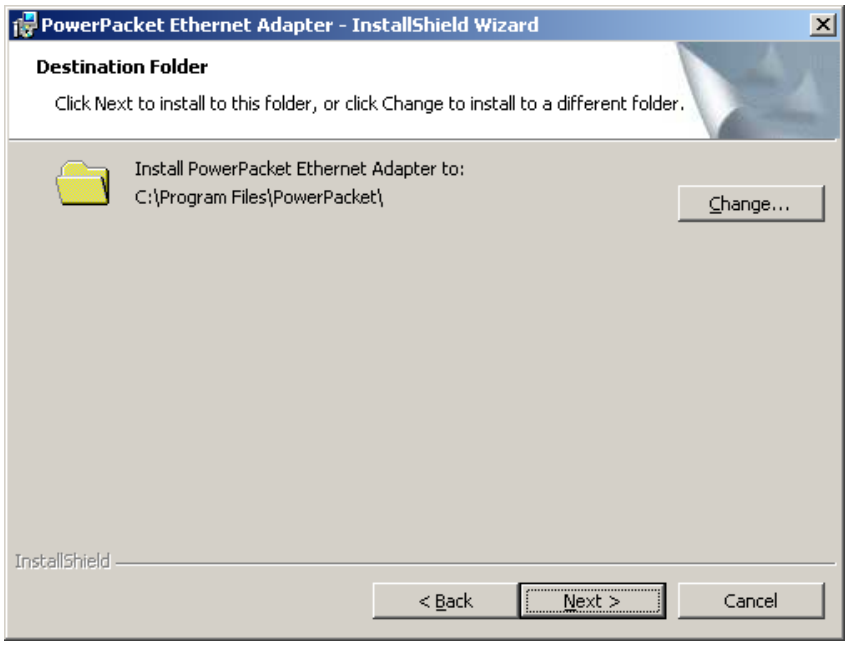
Running the InstallShield Wizard

Please insert the CD into your CD-ROM and wait a moment for the setup screen to come up. If the CD-ROM does not auto run the CD, please click on '**Start**' at the bottom left of your screen (for most Microsoft Windows) and go to '**Run**'. Type in: (CD Drive Letter):\eth\setup.exe and click '**OK**'

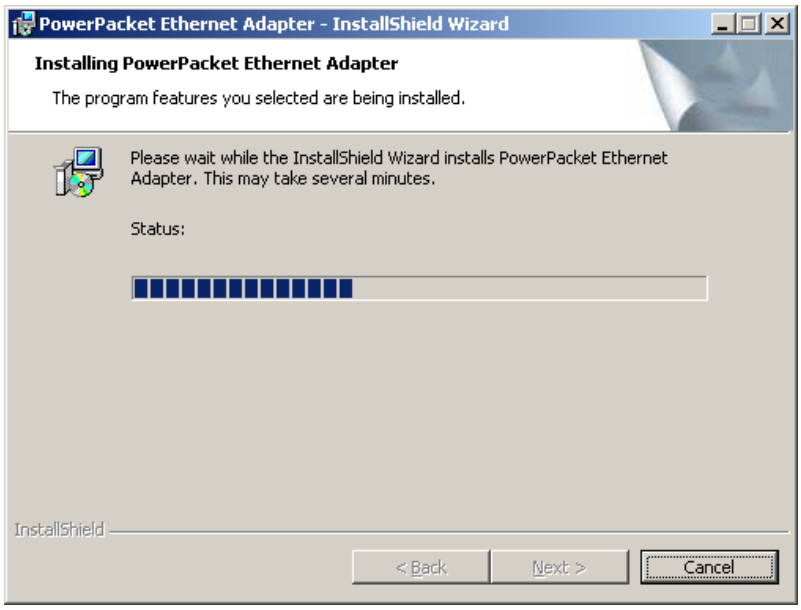
Once the software is loaded it will display a dialog such as is:


PowerPacket Ethernet Adapter - InstallShield Wizard
Welcome to the InstallShield Wizard for PowerPacket Ethernet Adapter
The InstallShield(R) Wizard will install PowerPacket Ethernet Adapter on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

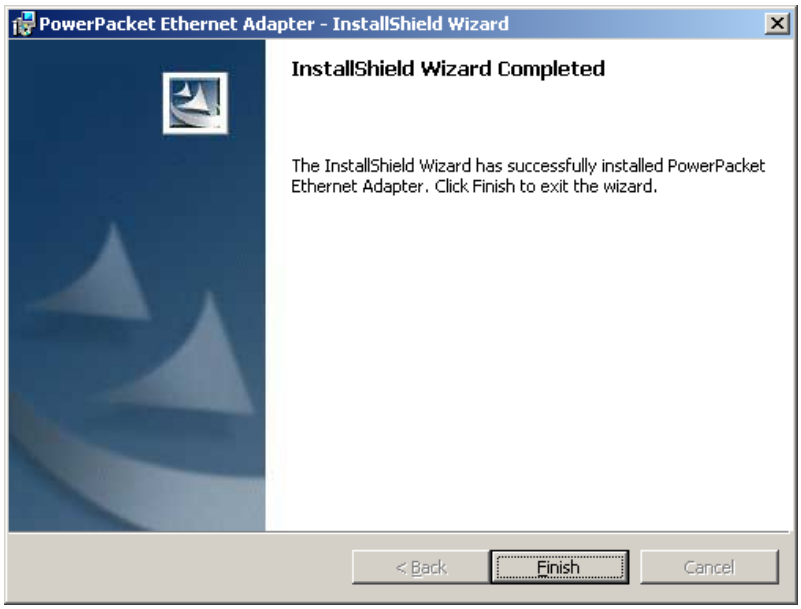
Please click on '**Next**' to continue the installation.


PowerPacket Ethernet Adapter - InstallShield Wizard
Destination Folder
Click Next to install to this folder, or click Change to install to a different folder.
Install PowerPacket Ethernet Adapter to:
C:\Program Files\PowerPacket\
Change...
InstallShield
< Back
Next >
Cancel

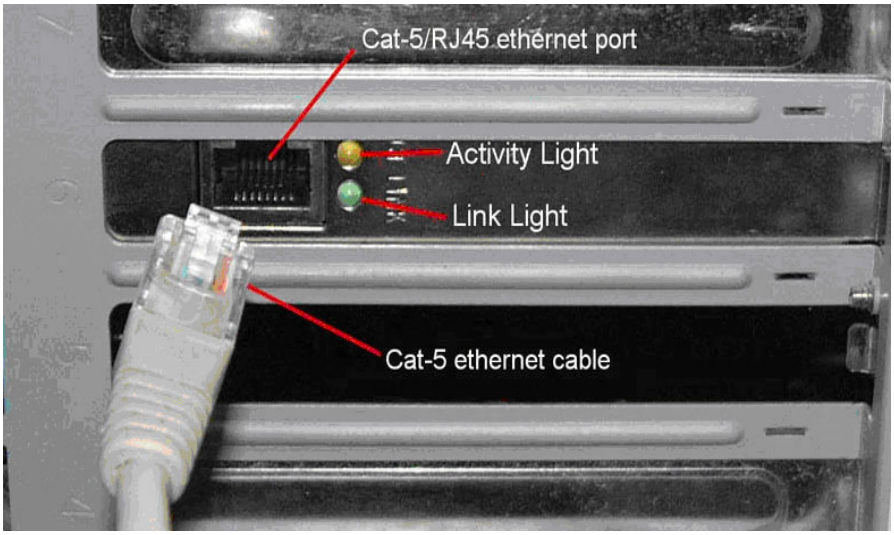
This section allows you to change the default directory where the program is installed. If you don't want to change the directory click on **Next** to continue the installation process.


PowerPacket Ethernet Adapter - InstallShield Wizard
Installing PowerPacket Ethernet Adapter
The program features you selected are being installed.
Please wait while the InstallShield Wizard installs PowerPacket Ethernet Adapter. This may take several minutes.
Status:
InstallShield
< Back
Next >
Cancel

This screen shows the progress of the installation.


PowerPacket Ethernet Adapter - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed PowerPacket Ethernet Adapter. Click Finish to exit the wizard.
< Back
Finish
Cancel

This screen shows that the installation was completed successfully. Click on **Finish** to exit the wizard. Now its time to setup you hardware connections please refer to the next diagrams.



Plug your network cable into the computer's RJ-45 **network adapter port**

Plug **the other end** of your network cable into the **RJ-45 port locate at the back** of the HomePlug Ethernet Bridge. If you are using the 3 port desktop product then plug your power connector into the **power connector at the back** of the HomePlug Ethernet Bridge. Next plug your HomePlug Bridge into a convenient mains socket.

****Note: ** Do not plug the device into a UPS or power strip with surge protection. The HomePlug Ethernet Bridge has its own power filter for protection against surges.**

Chapter 3: Configuration

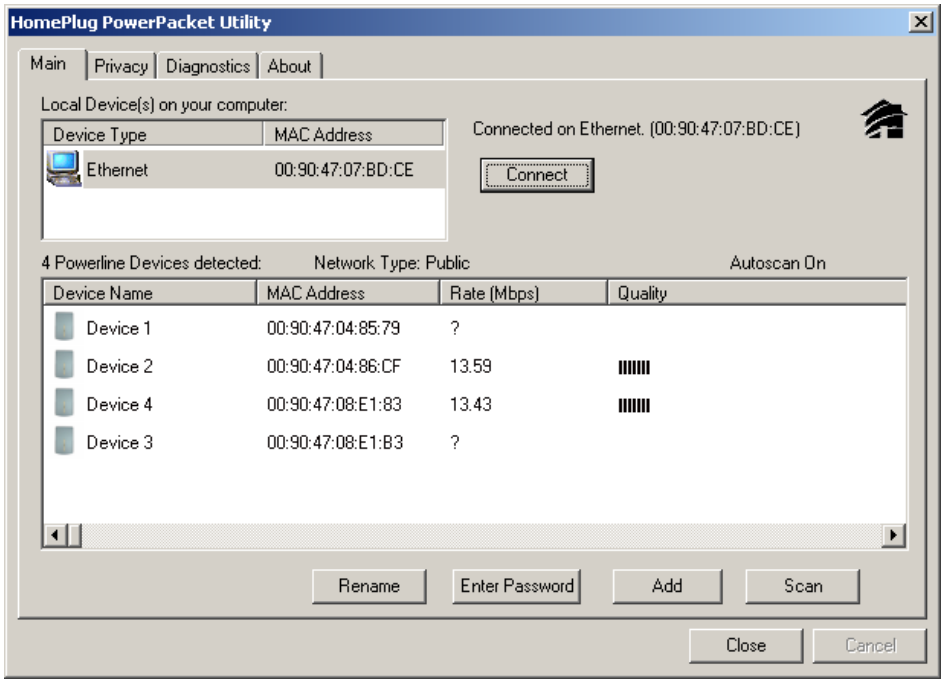
Overview

The HomePlug device uses 56-bit DES encryption to block outside access. The key is set by using the HomePlug Configuration Utility on the CD. By default, the protection is enabled. However, it is recommended that you change the default network password. All your HomePlug devices must use the same network password in order for the computers to be networked. Make sure that all devices are loaded with the same network password.

Diagnose Powerline network

Part 1: Diagnose a Local HomePlug Device

Double click the **PowerPacket Utility** icon on your desktop to open this utility show in the screen below

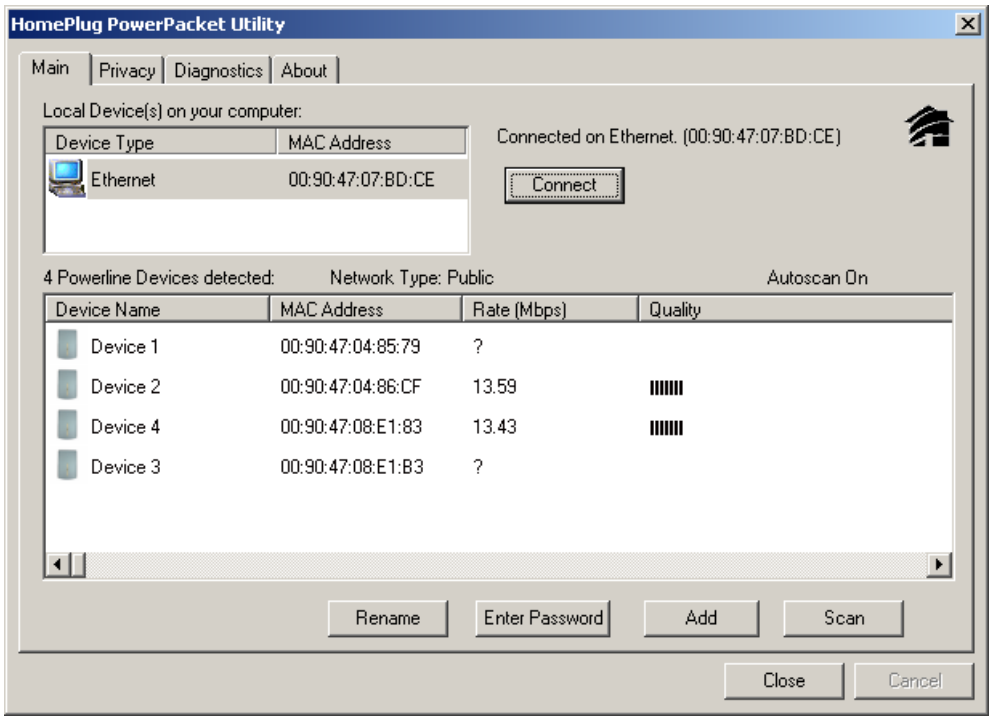


The Main tab shows the HomePlug units that are connected to the current computer and other devices on the network. It will also tell Mac Address of each device. It will let you **refresh** the window, if you change devices, and also will allow you to connect to different networks if multiple units are connected to your computer.

Note If the Link Quality is **poor**, and appears **red**, or the Mac Address of any of the units connected to this computer appears to be all 0's, then you might have a defective unit. Please contact technical support of your supplier **

Note If you do not see ANY unit in the device status, and there is a device connected to your computer, try to unplug all devices, and plug them back in. Also make sure that the cable connecting your computer to the HomePlug device is the right type and working correctly. If all of this seems to be correct, and you still receive nothing in the **Device** window, try rebooting your computer. If the problem still persists, please contact technical support from your supplier.

Part 2: Diagnose a Network HomePlug device



The Main tab shows all the other HomePlug Units on your powerline network. It will represent them by MAC Address, and will also show the available bandwidth to each unit (Units farther away from the current computer might have a lower Data Rate, since the distance is farther). If you add or subtract units from your home network, you might want to re-Scan, by clicking the "**Scan**" button. This will rescan the network, and refresh with any changes.

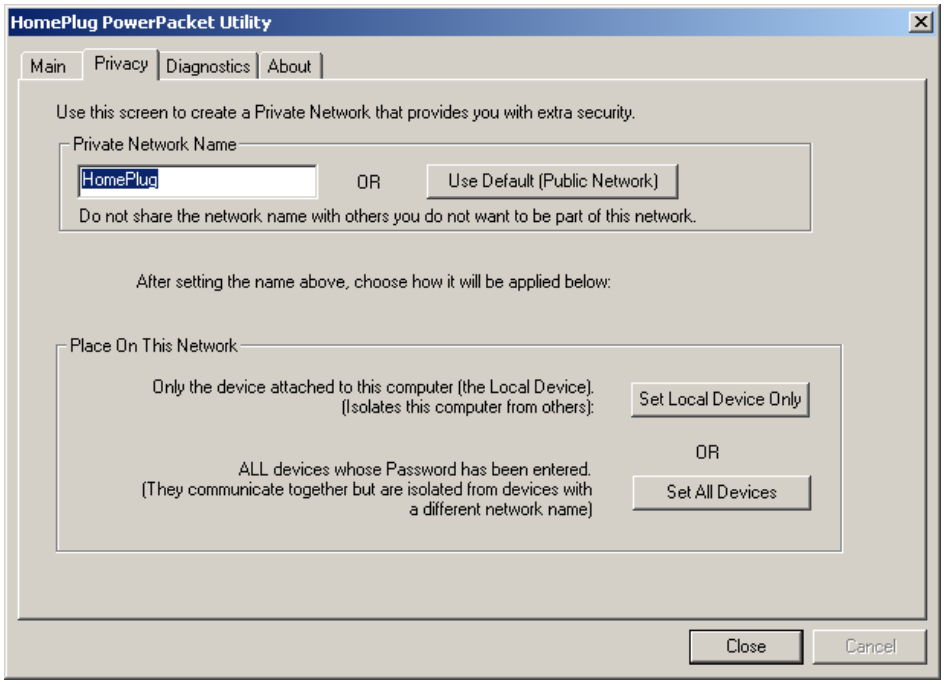
Note Only units with the same **Network Password** will be shown, please check that first, to make sure they all have the same network password (Case sensitive).

****Note**** If a Unit shows MAC Address of all 0's, this unit might not have a solid connection, or might not connect at all. If this is the case please contact technical support.

Note If there are Units in your home, that you do not see in this Network scan, try to unplug all devices, and plug them back in (Only do this with the Units that you do not view in the network screen, you don't have to do this with all units. If the problem persists, try to move the unit closer to this current unit

(adjacent plugs on the same wall socket is most preferable). If the problem still persists and that unit is still not shown on the network, then the unit might be defective please contact technical support. Otherwise if you view the unit working, distance might be the only issue.

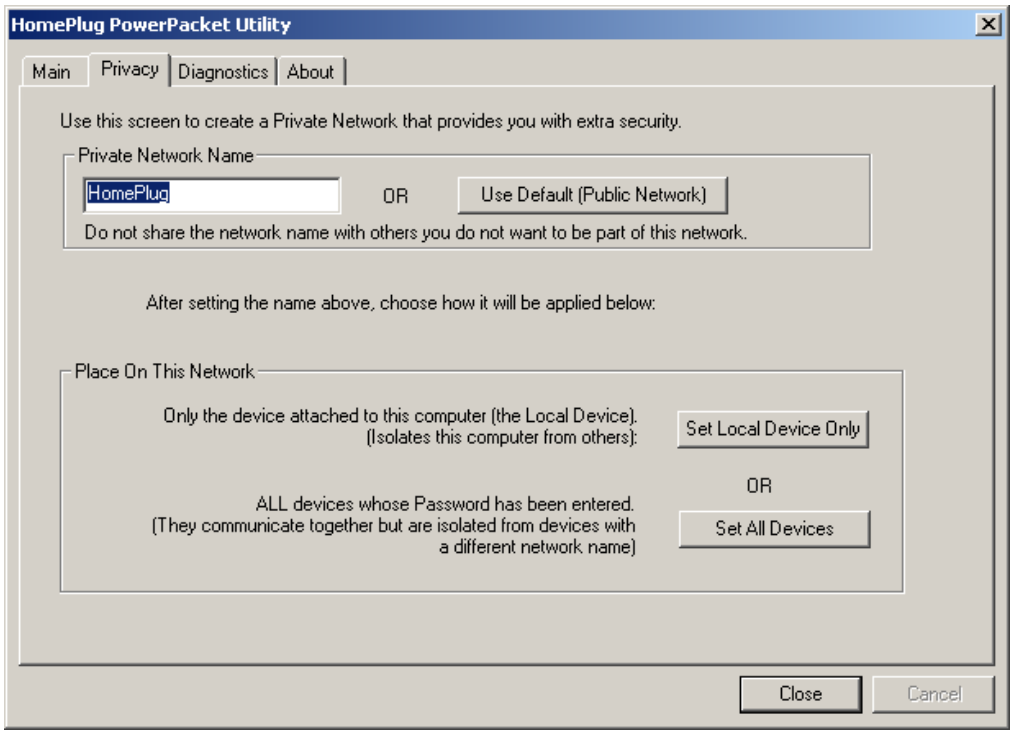
Setting Up Security on a Local HomePlug device


HomePlug PowerPacket Utility
Main
Privacy
Diagnostics
About
Use this screen to create a Private Network that provides you with extra security.
Private Network Name
HomePlug
OR
Use Default (Public Network)
Do not share the network name with others you do not want to be part of this network.
After setting the name above, choose how it will be applied below:
Place On This Network
Only the device attached to this computer (the Local Device).
(Isolates this computer from others):
Set Local Device Only
OR
ALL devices whose Password has been entered.
(They communicate together but are isolated from devices with
a different network name)
Set All Devices
Close
Cancel

The **Privacy** tab will allow you to change the **Network Password** to the unit that is currently connected to this computer. This network password encrypts all data that is sent from this unit using 56-bit data encryption standard (DES). The DES Encryption is very secure, and very difficult to crack, therefore your home network is very secure, and very difficult to breach your home network.

Note Every unit on your home network MUST have the same **Network Password** for connectivity to be established throughout your home. The default network password is "***HomePlug***".

Setting Up Security on a Network HomePlug device


HomePlug PowerPacket Utility
Main
Privacy
Diagnostics
About
Use this screen to create a Private Network that provides you with extra security.
Private Network Name
HomePlug
OR
Use Default (Public Network)
Do not share the network name with others you do not want to be part of this network.
After setting the name above, choose how it will be applied below:
Place On This Network
Only the device attached to this computer (the Local Device).
(Isolates this computer from others):
Set Local Device Only
OR
ALL devices whose Password has been entered.
(They communicate together but are isolated from devices with
a different network name)
Set All Devices
Close
Cancel

The **Privacy** Tab will allow users to use one primary computer to control the **Network Password** of all units on the home network.

You will have to go back to the **Main Tab** first then find the DEK (Device Encryption Key) Key located on the bottom of each device. Enter this Key into the **Device Password** area. Click **Add**. This Device Key will then appear in the bottom window . Add all the DEK Keys for each unit in your house. You can now go back to the **Main Tab** then change the password remotely from one computer. This will allow you to change the password from one computer, instead of changing the password individually.

****Note** The DEK is unique for EACH HomePlug device. To use this you will need to input the DEK for each unit.**

Appendix A: Troubleshooting

Frequently Asked Questions

Q. What's the speed of HomePlug operate over a standard home power line network?

A. HomePlug operates up to 14Mbps or 85Mbps bandwidth (model dependant) over a standard home power line network.

Q. What's the Estimated Range of HomePlug?

A. Approximately 300 meters in wall power lines (one household).

Q. Will HomePlug work in any home?

A. Any home with copper wiring built-in, since some of the older houses built before 1950 might have older wiring then this might cause a drop in performance.

Q. Will HomePlug signal pass through circuit breakers?

A. Yes, HomePlug signal will have no problem passing through circuit breakers but not through power transformers.

Q. Does Homeplug work with AC input 100 – 240V?

A. Yes.

Q. Does HomePlug cause any interference with other my other home networking device?

A. No, HomePlug operates in a different frequency band than other power line control devices and can co-exist with technologies as X-10, CEBus, and LONworks.

Q. Can my neighbor receive my HomePlug signal?

A. HomePlug signals will not normally jump mains phases. Since your immediate neighbors should all be on a different phase than your home it is almost impossible for your neighbor receive your HomePlug signal. However, to be 100% sure we advise changing the 56-bit DES security encryption password on your HomePlug Device. To do that, you must run the HomePlug Configuration Utility on each Homeplug device in your power line network. This will only allow computers with the same security password to be able to receive information.

Q. How do I find out what's my current speed and my signal strength of my HomePlug device?

A. Run the HomePlug Configuration Utility, it will show your current speed and your signal strength.

Q. One of the Powerline LED's doesn't light up after I plug the HomePlug directly into a wall outlet?

A. Test that wall outlet with other electric devices first, make sure that wall outlet is working properly. Then, try to plug your HomePlug device again, if the same problem happens again, plug both HomePlug units into adjacent sockets, and see if the lights light up. If you are still having problems please contact Technical Support from your supplier.

Q. The Ethernet LED doesn't light up on my HomePlug Ethernet Bridge?

A. Most likely, if the Ethernet LED doesn't light on your HomePlug Ethernet Bridge is because the Ethernet port on it doesn't detect a LAN connection. Check your Ethernet adapter on your computer, and make sure its enable and working properly. Also, check your Ethernet cable, make sure you use the right type, it's plugged in correctly, and it's working properly.

Q. I can't connect to internet and other computers on my power line network?

A. 1. Check your IP address and TCP/IP protocol are set up properly for all the computers on your power line network (**Appendix B**) and try to ping your gateway (**Appendix B**).
2. See if HomePlug Configuration Utility to detect all other HomePlug device on your power line network. Try plugging both HomePlug units into Adjacent sockets and see if the lights light up. If you are still having a problem, please contact Technical Support.

Q. How many HomePlug devices do I need to setup a powerline network?

A. You must need two or more HomePlug devices to setup a powerline network.

Q. In order to making the HomePlug Ethernet Bridge working properly, do I have to install the HomePlug Configuration Utility on every single computer who has the HomePlug Ethernet Bridge plug into it?

A. No, the HomePlug Configuration Utility is a utility to simply diagnose or setup encryption for HomePlug device. HomePlug Ethernet Bridge is a fully plug & play device, no driver require to install. So, technically speaking, the HomePlug Configuration utility is not a requirement to install on your computer. In other words, you can install the utility, setup the encryption, and delete it from your computer, but your HomePlug Ethernet Bridge will still work properly.

Q. How many HomePlug Ethernet Bridges that I can install into one same Local Area Network?

A. It recommended install up to ***16*** HomePlug Ethernet Bridges in one same password powerline network.

Q. What factors influence the speed and operation of the HomePlug Ethernet Bridges?

A. The Homeplug system is generally, extremely resilient to the vagouries of the typical houses mains wiring. The main problems with mains networking are random mains noise. Typical factors that can make mains noise are:

i. Cheap switch mode power supplies. Generally this means the small plug-in power supplies you get with, for example, mobile phone chargers, some comms equipment like routers or wireless access points etc... These are also the same type of supplies you get in 'energy-saver' light bulbs (if these are used in ceiling lights you're okay but, in desk or standard lamps which plug into the mains sockets they could be a problem). Try unplugging products from the wall and see if the PHY rate in the diagnostic utility improves.

ii. Bad connections in the wiring. This can mean poor connections in the mains in the wall or wall sockets or faults in the plugs for one of your items of home equipment or actually wiring faults in the house electrical equipment it's self. These are the types of faults which can appear over time (e.g. a wire fixing screw in a mains socket can come loose) but the equipment plugged into the socket continues working. These problems are hard to trace but, like above, try unplugging products from the wall and see if the PHY rate in the diagnostic utility improves.

Q. Will the HomePlug network work through a second distribution panel (fuse box/consumer unit)?

A. Yes. Each consumer unit produces about 10dB drop in signal strength however the HomePlug network typically has ample signal strength to be able to cope with this sort of drop.

Appendix B: IP Addressing

What is an IP Address?

IP Stands for Internet Protocol. An IP Address is the identifier where other computers on the network can contact your computer, when you are connected to the network using the TCP/IP protocols. The format of IP addresses are 32bit numerical addresses in 4 groups of 3. It is ranged from 0-255. For example: 255.255.255.255. This number allows your computer to be unique on the same network, and able to communicate with other computers on the network.

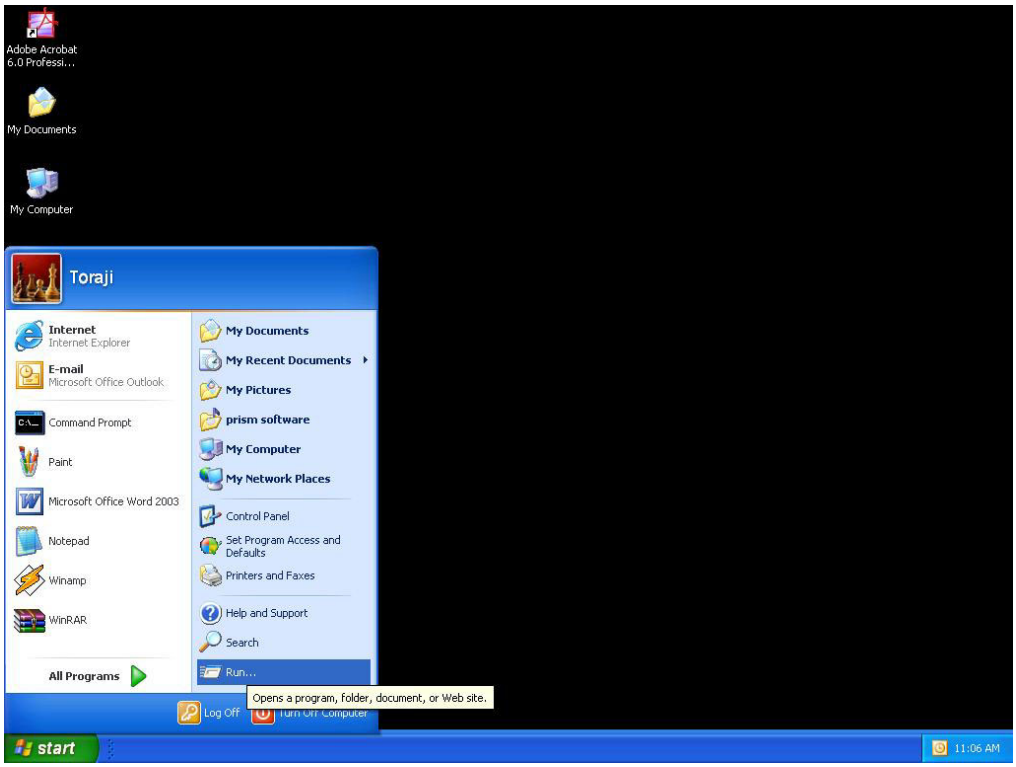
Dynamic IP Addressing

Dynamic IP Addressing is where the computer will automatically be assigned a new IP Address. This IP Address will be unique to the network that it is working on, and should not be the same as any other computer on the same network.

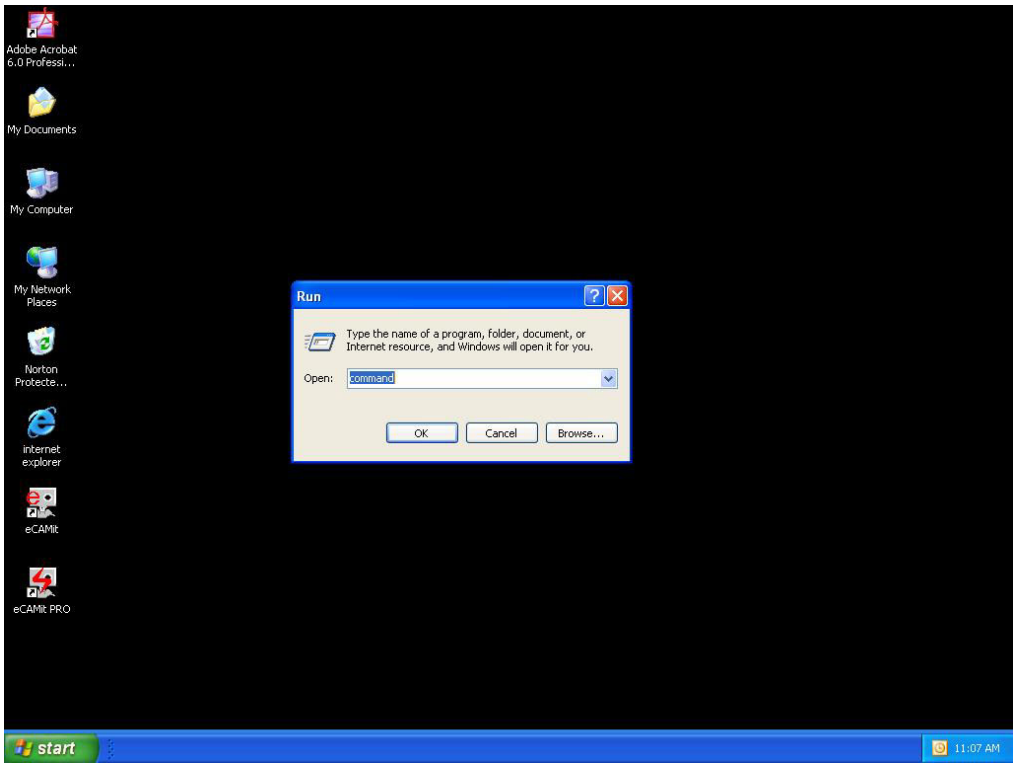
Static IP Addressing

Static IP Addressing is where the computer will have a preconfigured IP Address. This Address will never change, and will always be the same. This scheme should be used if you want to keep the same settings on each computer all the time. If the subnet of the network changes (subnet is the first 3 groups of the IP) the subnet of the static computer must also change.

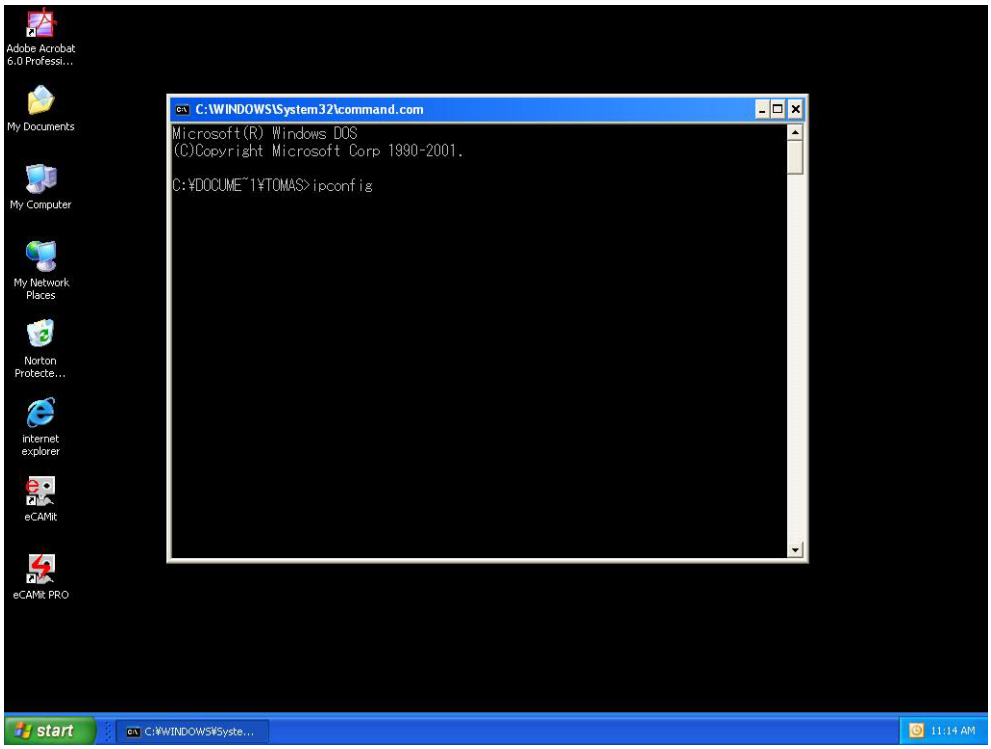
Checking IP Address (Windows 98SE/ ME/ 2000 / XP)



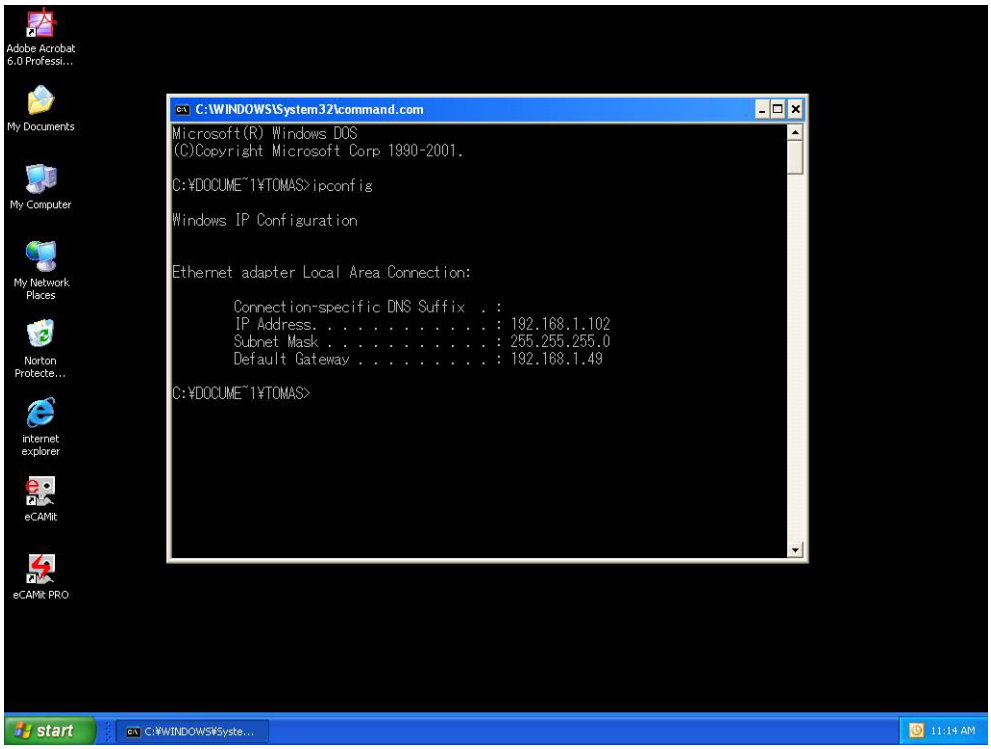
1. Click **Start** and click **Run**



2. Type "**Command"** in the run prompt, Click **OK**



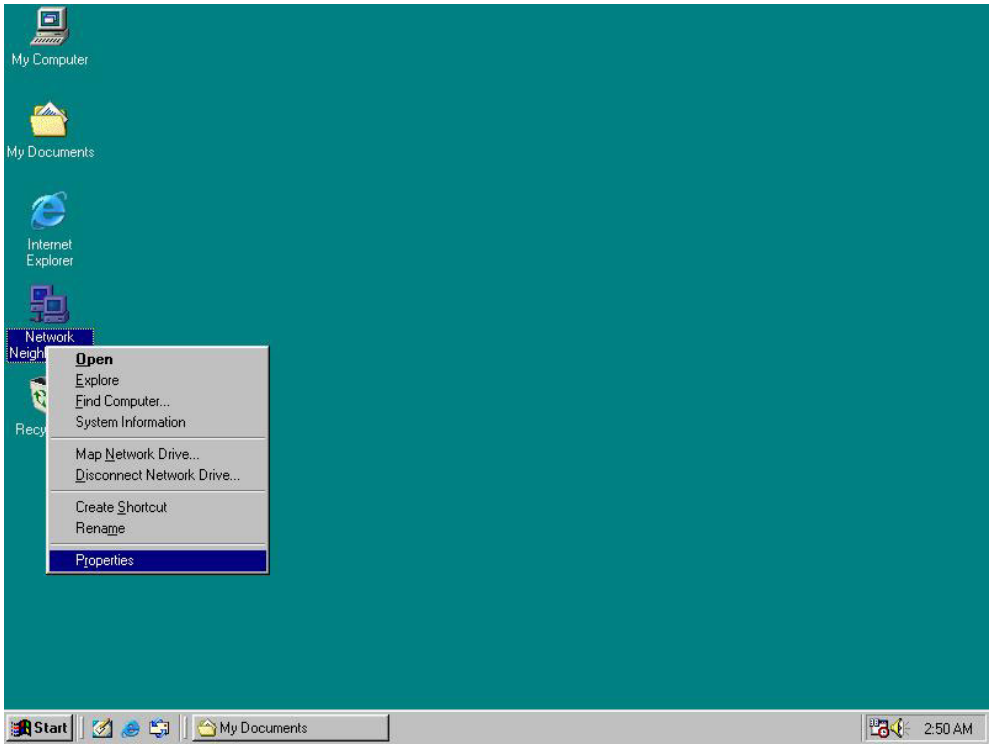
3. A Dos Command prompt will open. Type in “ipconfig” and press **Enter**


C:\WINDOWS\System32\command.com
Microsoft(R) Windows DOS
(C)Copyright Microsoft Corp 1990-2001.
C:¥DOCUME~1¥TOMAS>ipconfig
Windows IP Configuration
Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix . :
IP Address. . . . . : 192.168.1.102
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.1.49
C:¥DOCUME~1¥TOMAS>
start

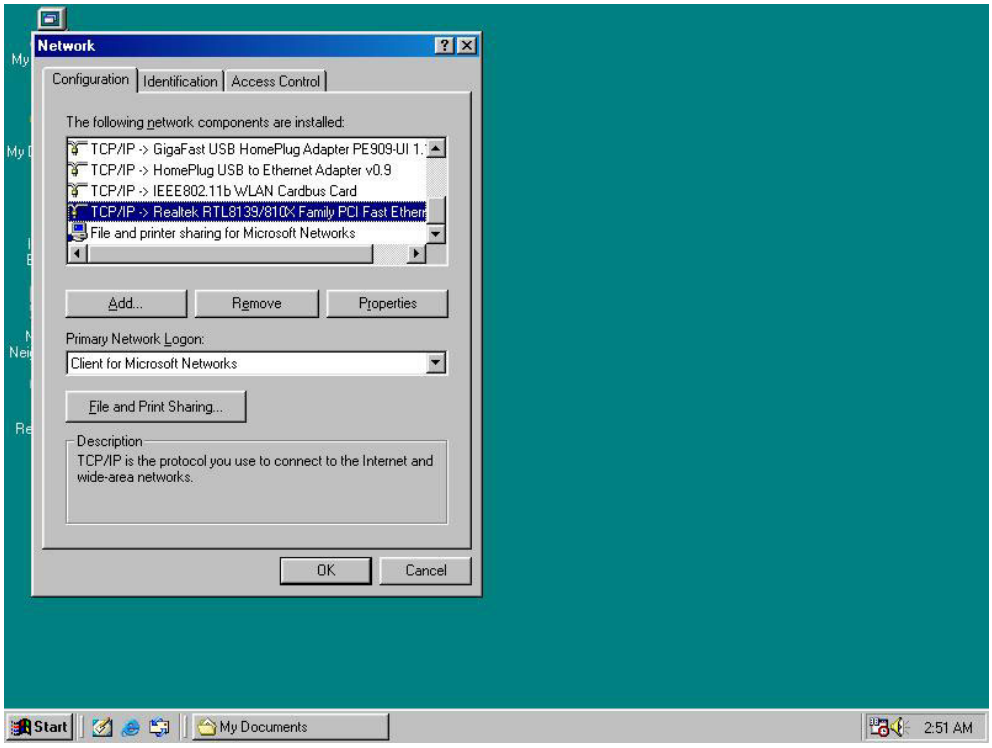
4. Your IP Address will Display, along with the Subnet Mask, and your Gateway

Setting Static IP Address

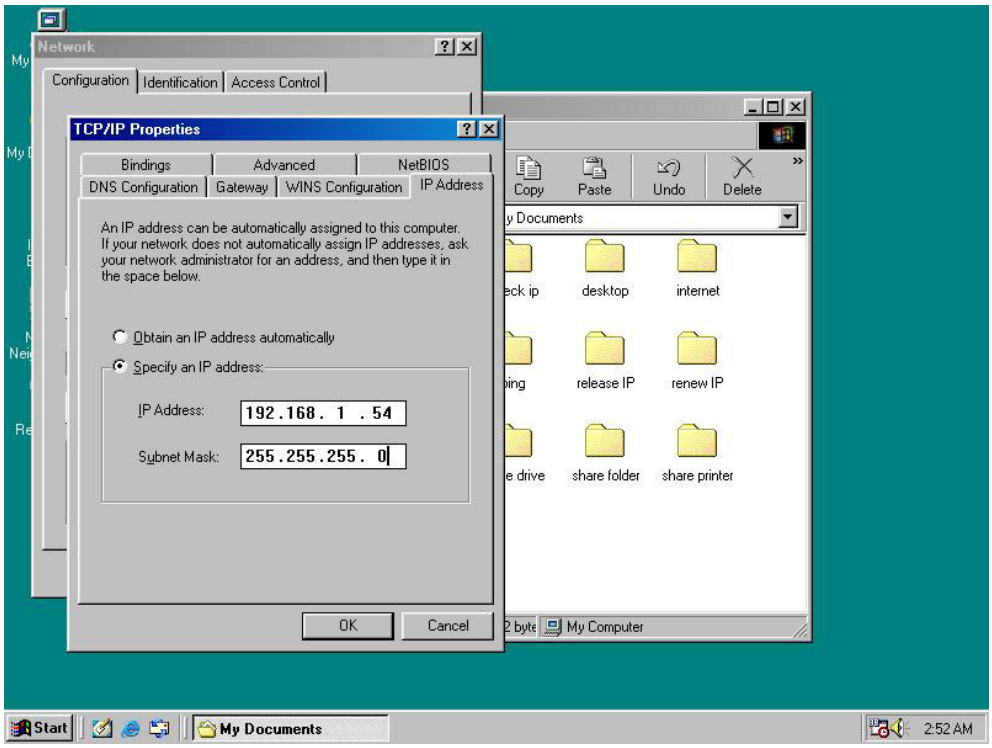
Part 1: Windows 98 SE / ME



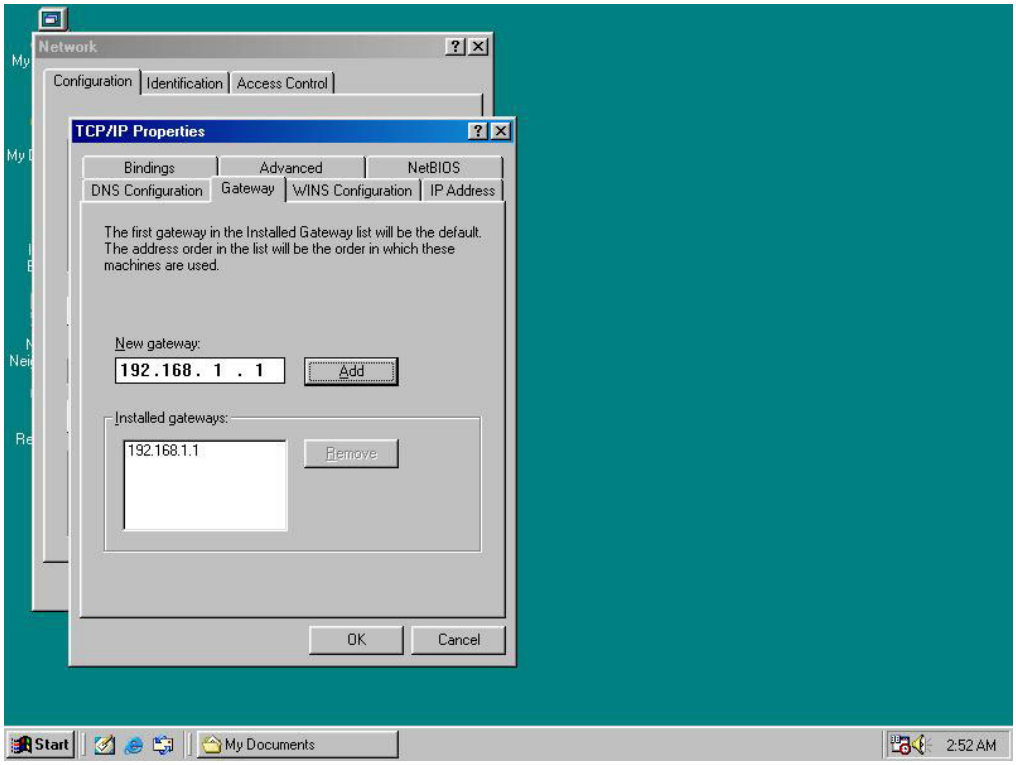
1. Right Click on “**Network Neighborhood”** and click “**Properties”**



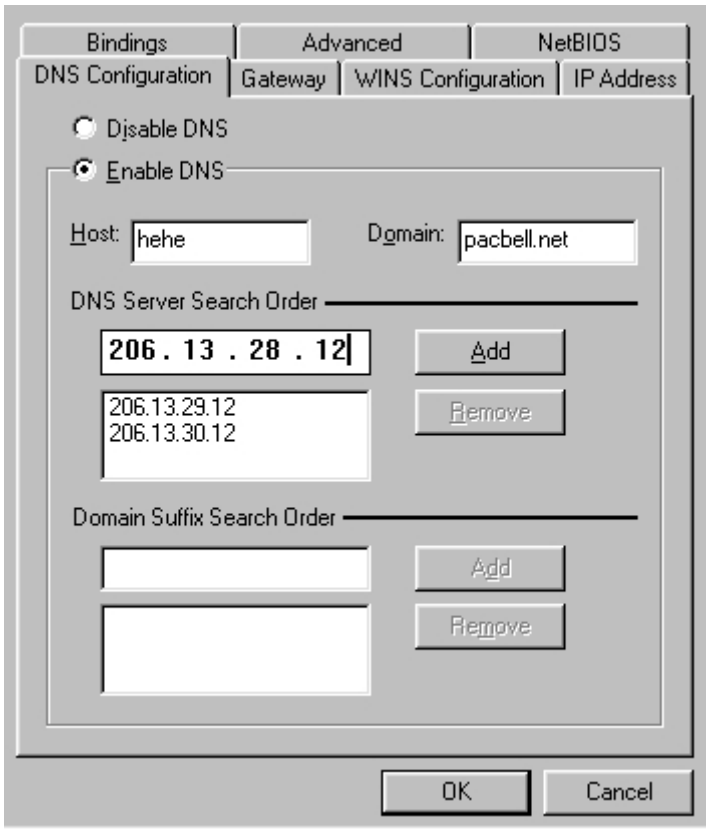
2. Click on “**TCP/IP”** for the network adapter you want to set IP addresses for



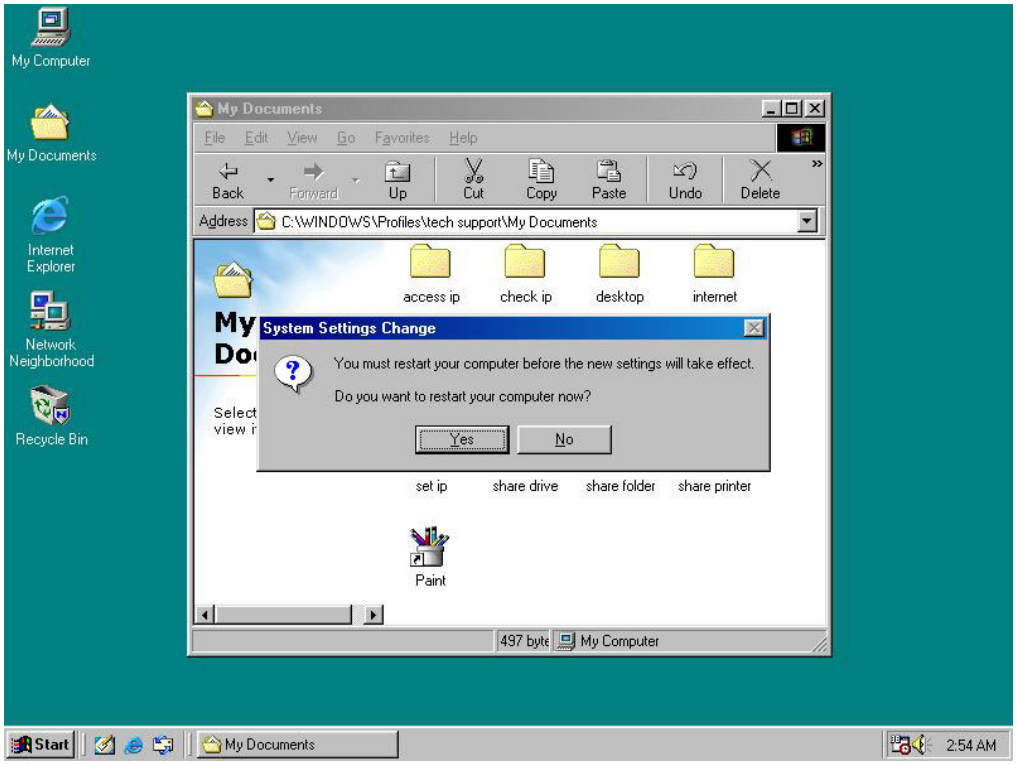
3. Click on "**Specify an IP address"** Type in the IP Address you wish to use. (192.168.XXX.XXX is very standard for home networks) Click on the Subnet mask, and if you know the subnet mask you want to use, type it in, otherwise it should fill in with "255.255.255.0" which is very standard for subnet masks.



4. Click on the "**Gateway"** tab, and **add** in your gateway IP address.

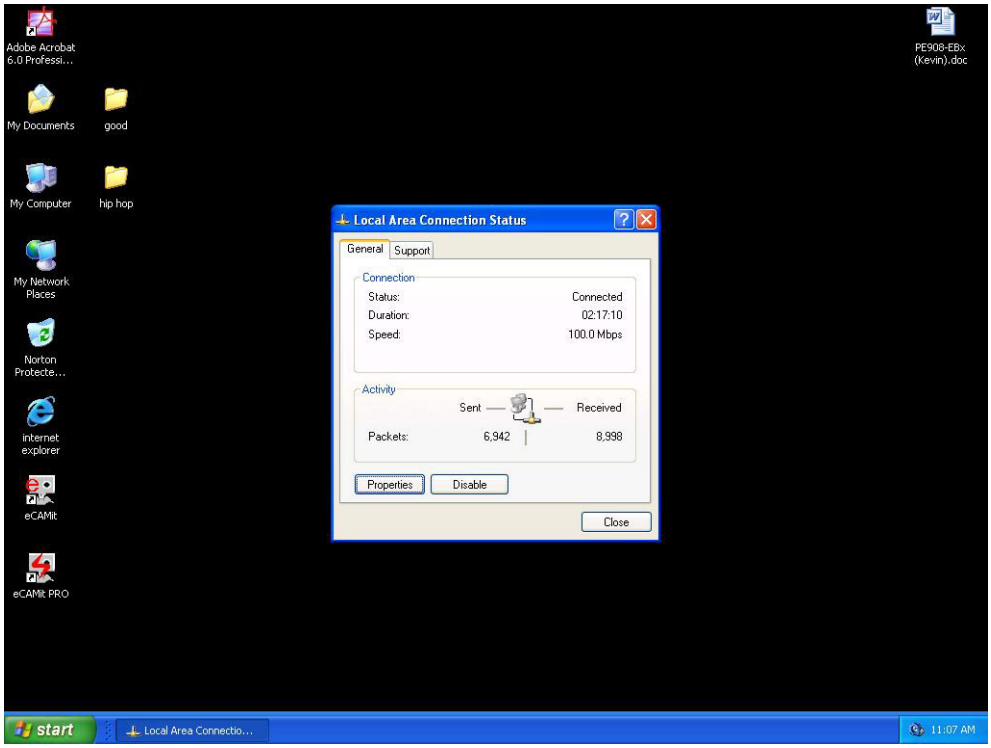


5. Click on the "**DNS Configuration"** tab, and **add** in your DNS server IP address. Click **OK** button when you done.

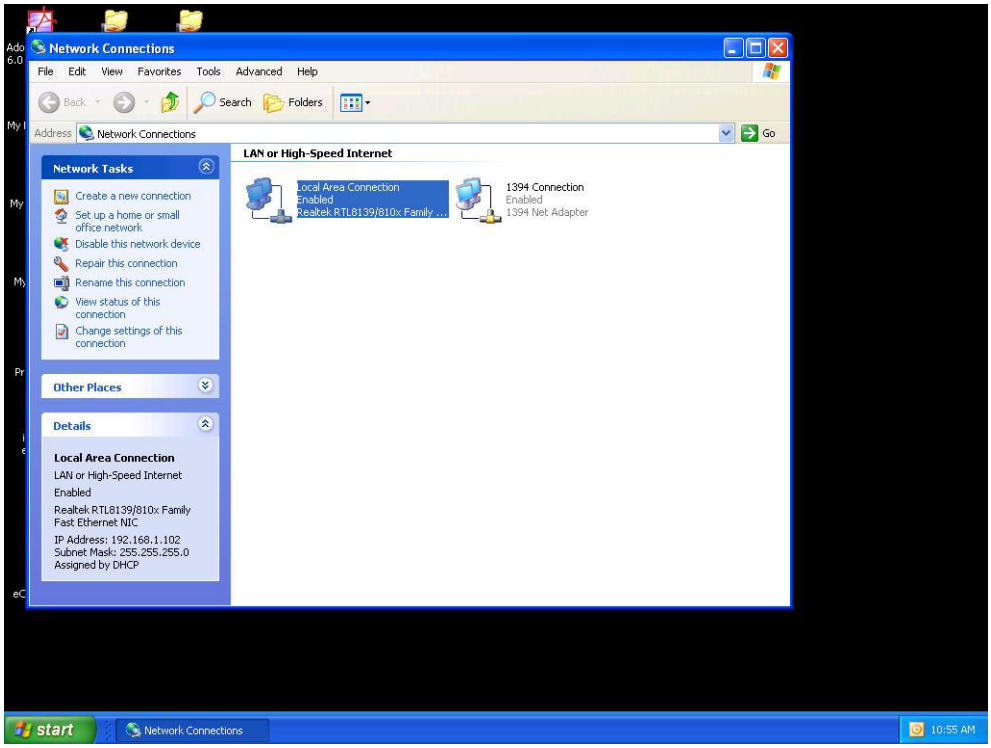


5. To save the changes you must restart, so click **"YES"**

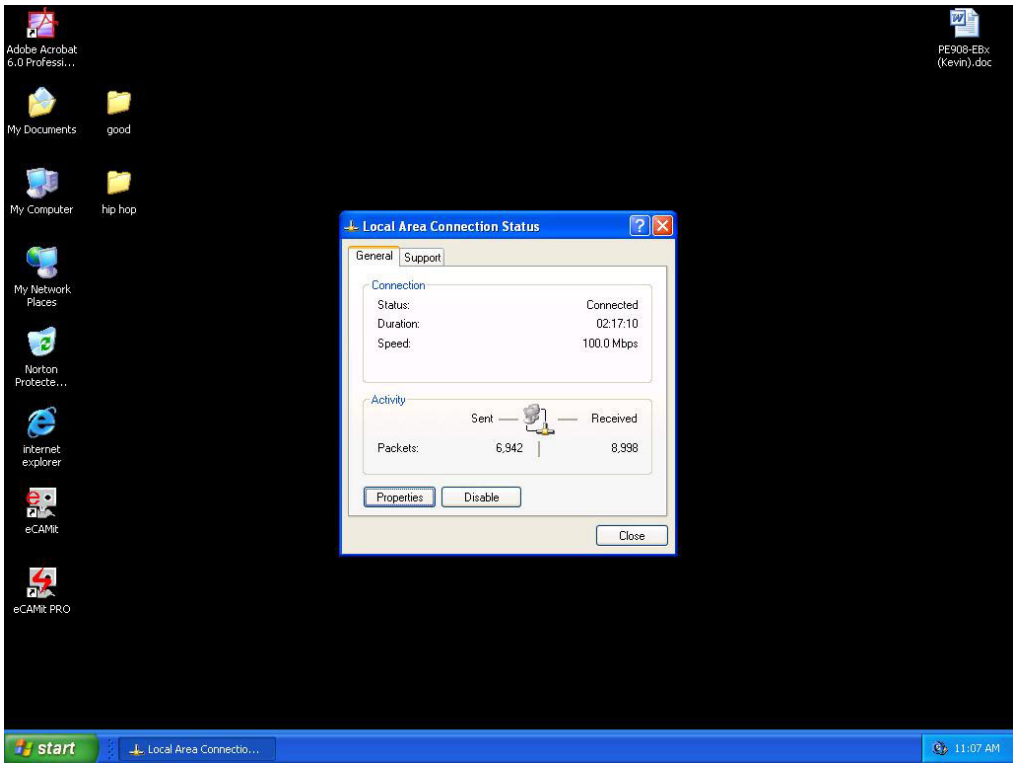
Part 2: Windows 2000 / XP



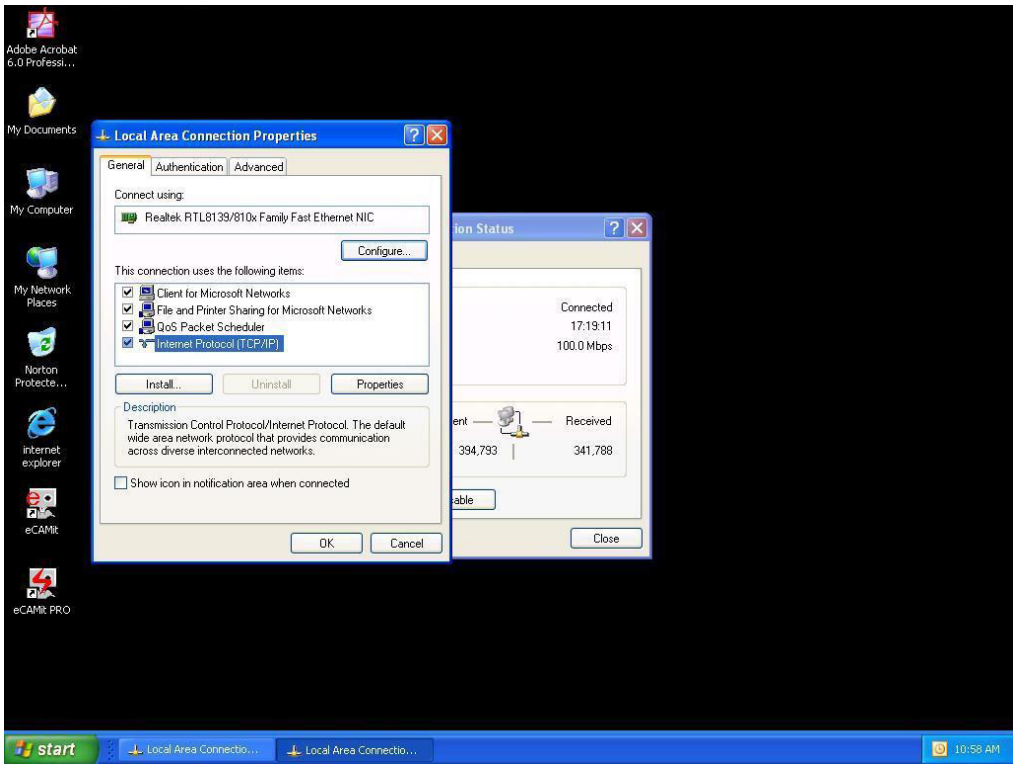
1. Right click **My Network Places** and click **Properties.**



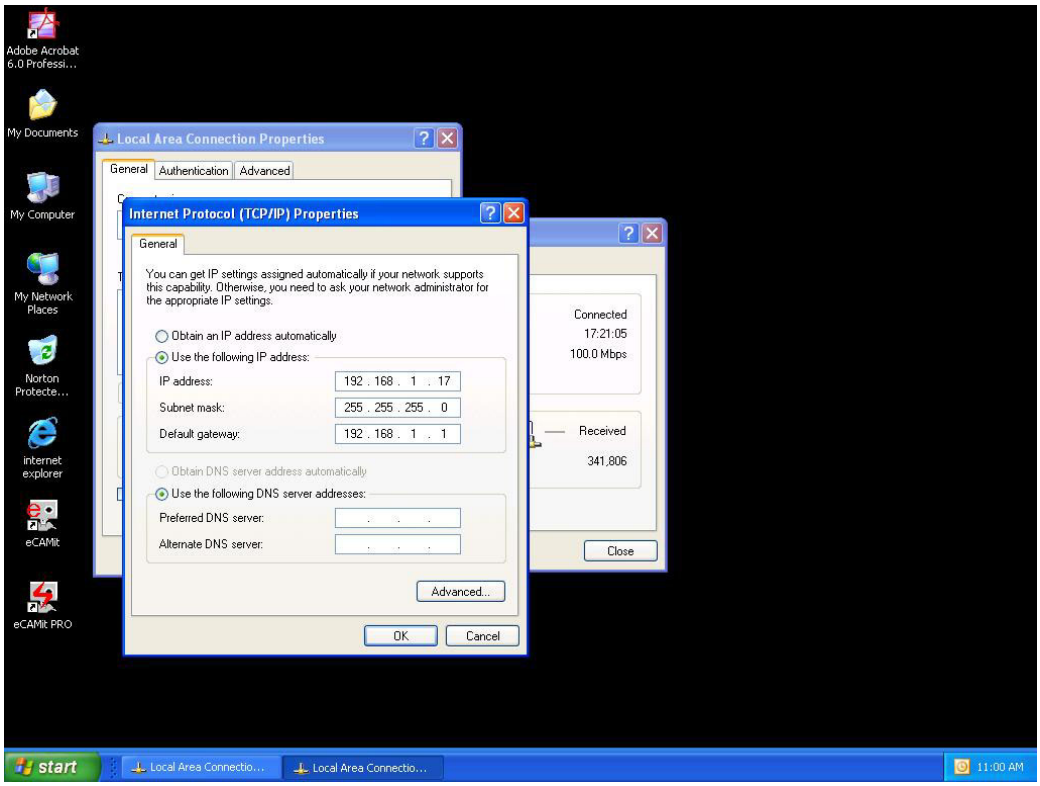
2. Find and “Double Click” the **Local Area Connection** for the **Network adapter** you want to Set IP’s for.



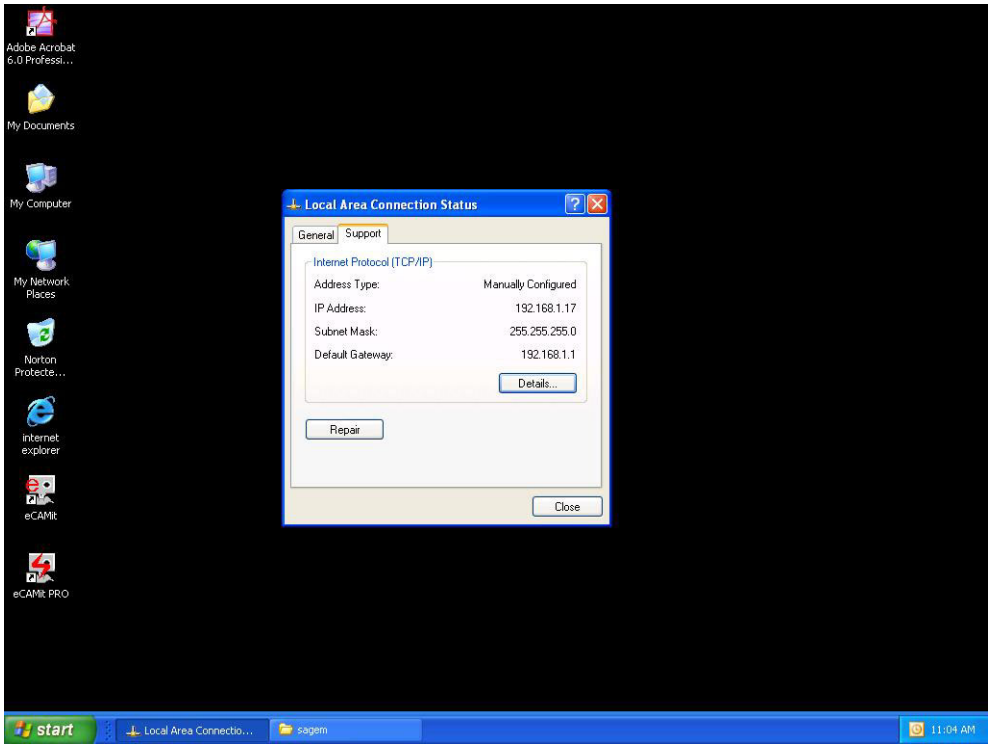
3. Click **Properties**



4. Click(Highlight) "**Internet Protocol (TCP/IP)"** and click **"Properties"**



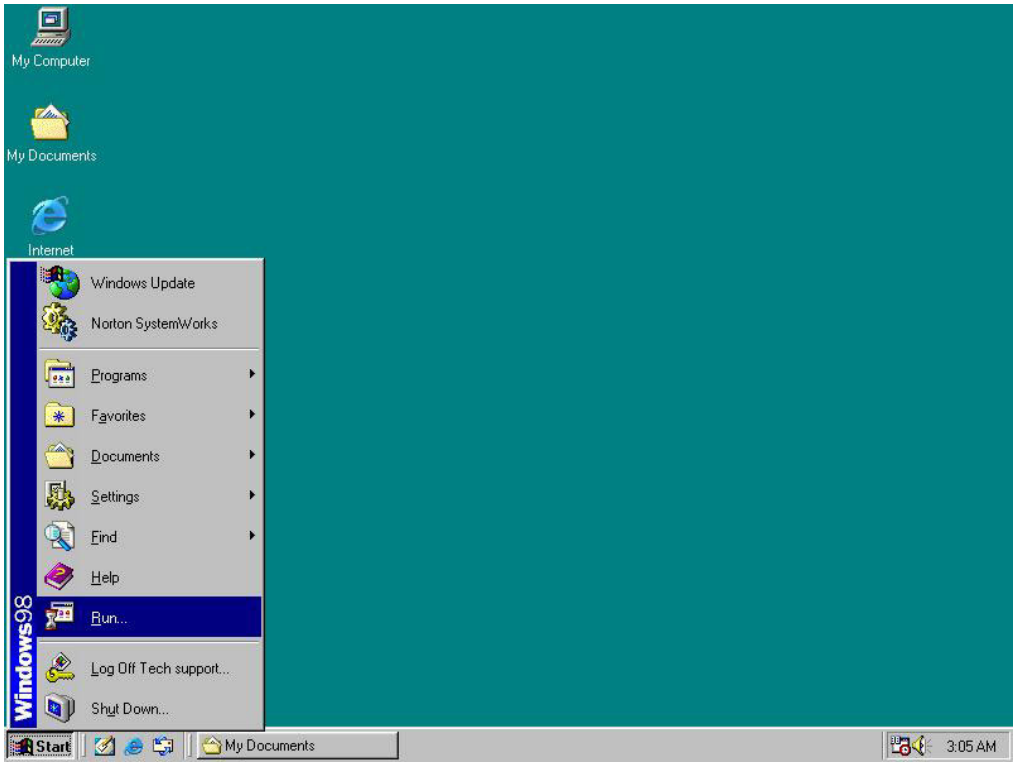
5. Click "**Use the following IP address"** Type in the IP Address you wish to use. (192.168.XXX.XXX is very standard for home networks) Click on the Subnet mask, and if you know the subnet mask you want to use, type it in, otherwise it should fill in with "255.255.255.0" which is very standard for subnet masks. Click on the Default gateway and fill that in. If you know the DNS you are going to use, fill it in otherwise leave it blank. Then click OK.



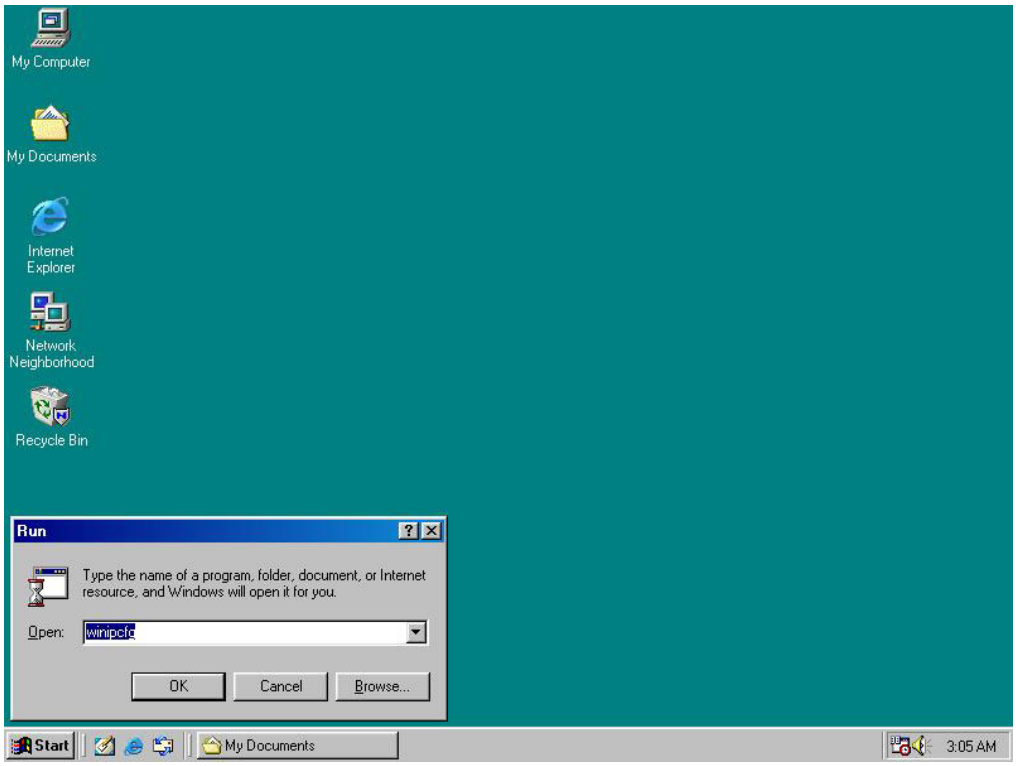
6. To check that everything is Correct, Click on “**Support**” and the information you typed in should appear.

Release and Renew an IP address

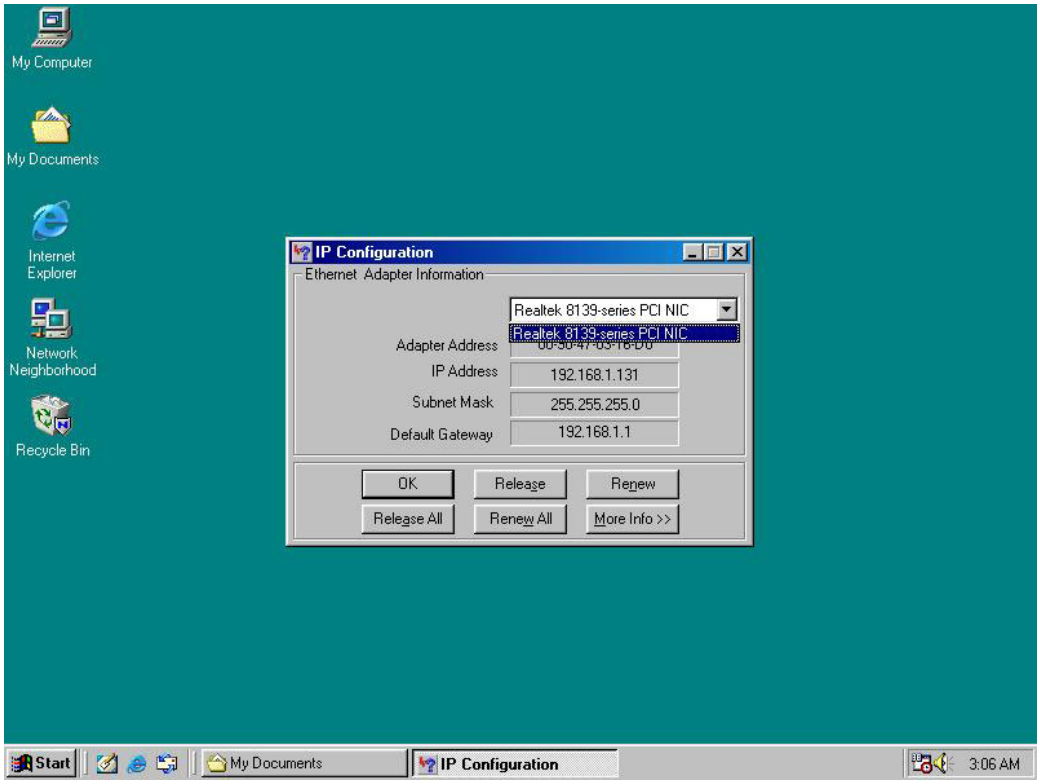
Part 1: Windows 98 SE / ME



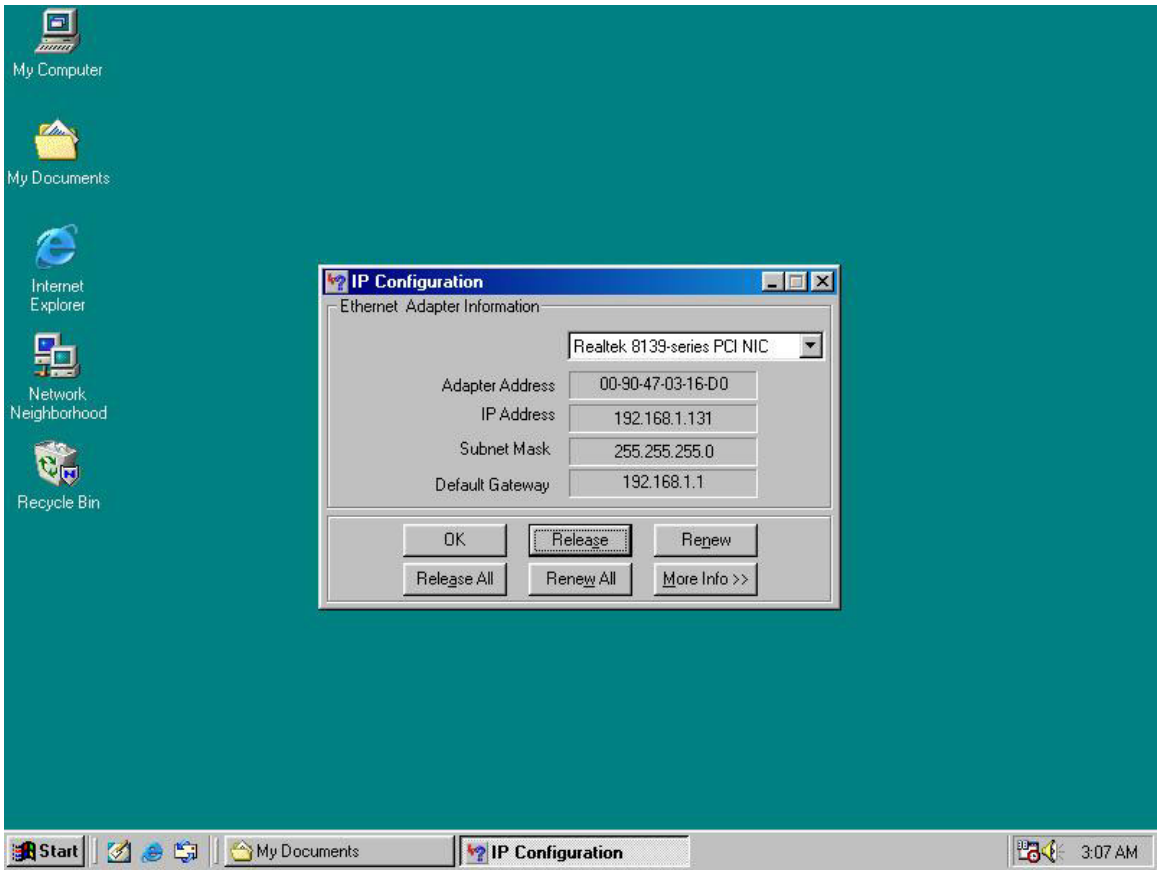
1. Click **Start,** then click **Run**



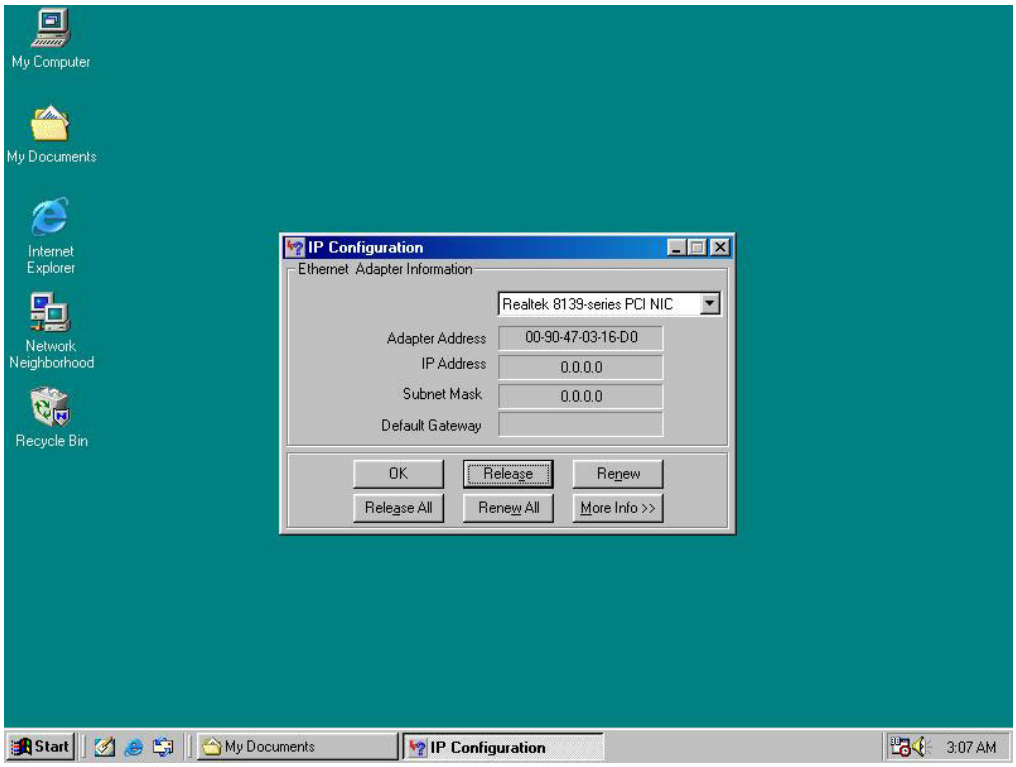
2. Type “**winipcfg”** and click **OK**



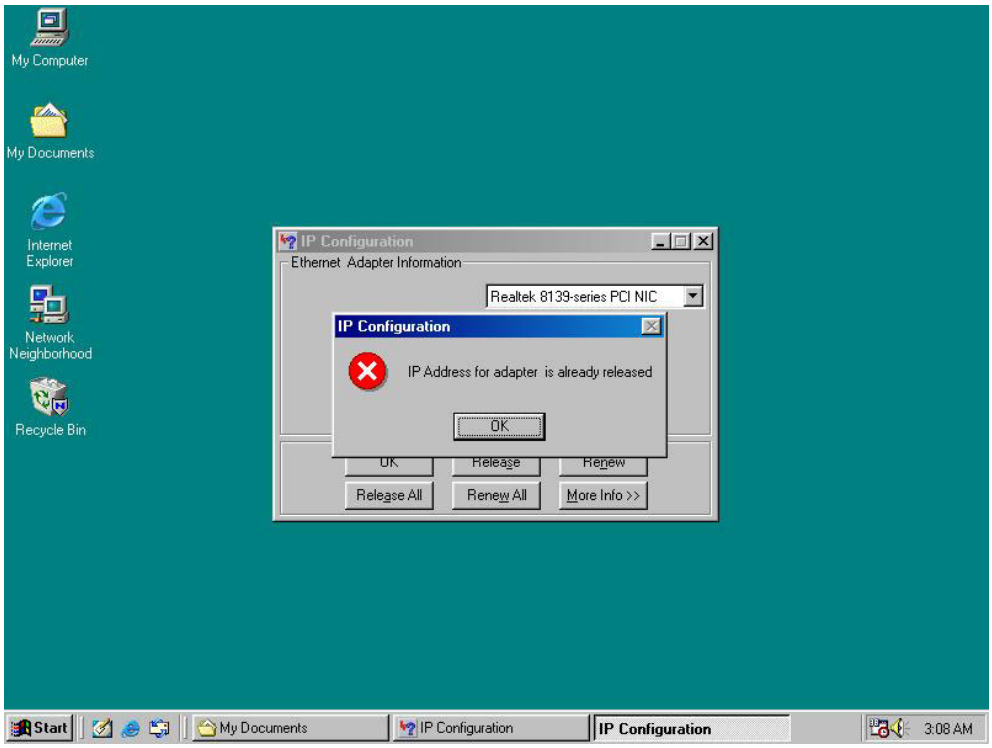
3. Select the Network adapter you want to release IP’s for.



4. Click **"Release"**

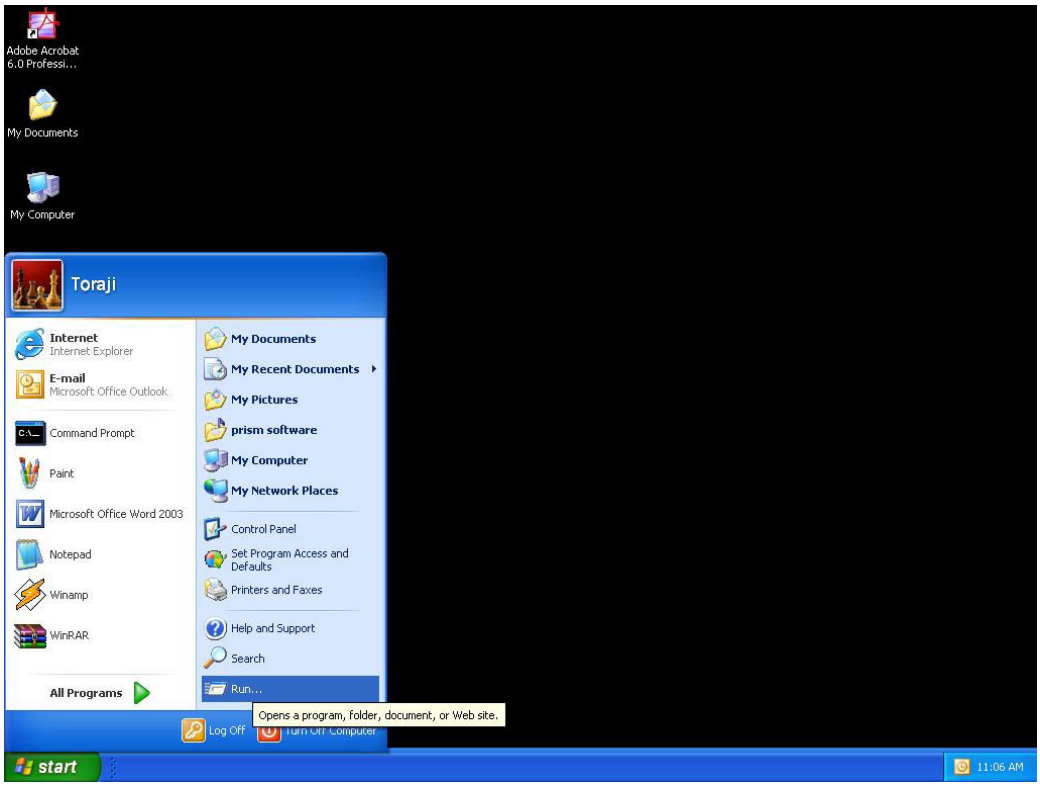


5. Your IP Address should turn to 0.0.0.0

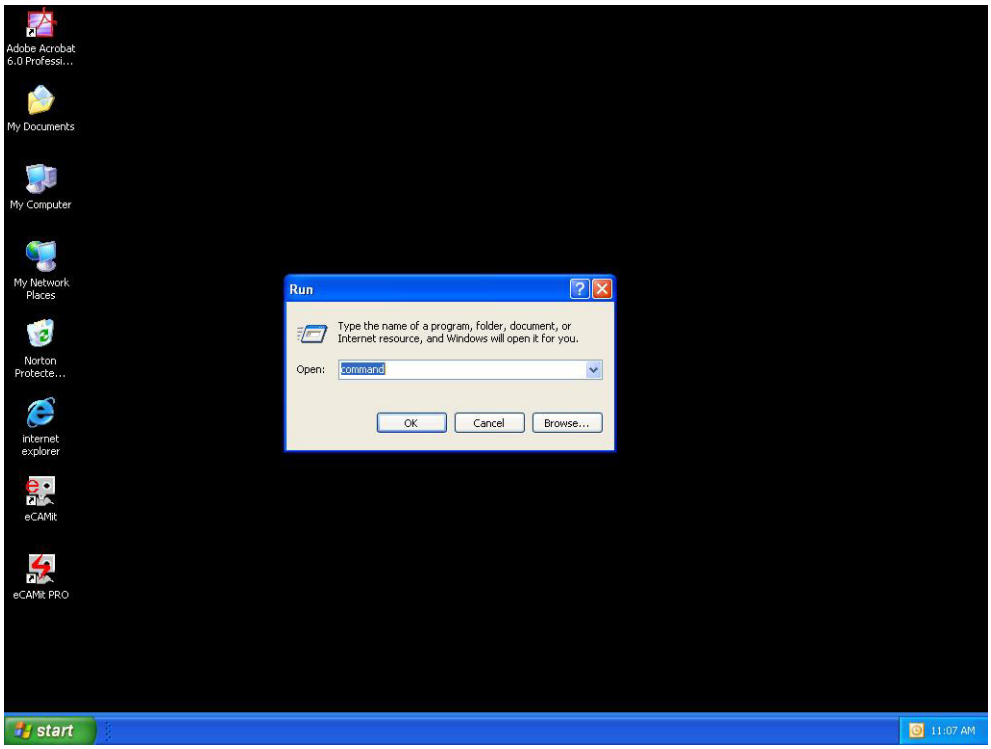


6. If you Click Release, and an error saying **"IP Address for adapter is already released"** then you do not need to release any more, Try "**Renewing your IP"**

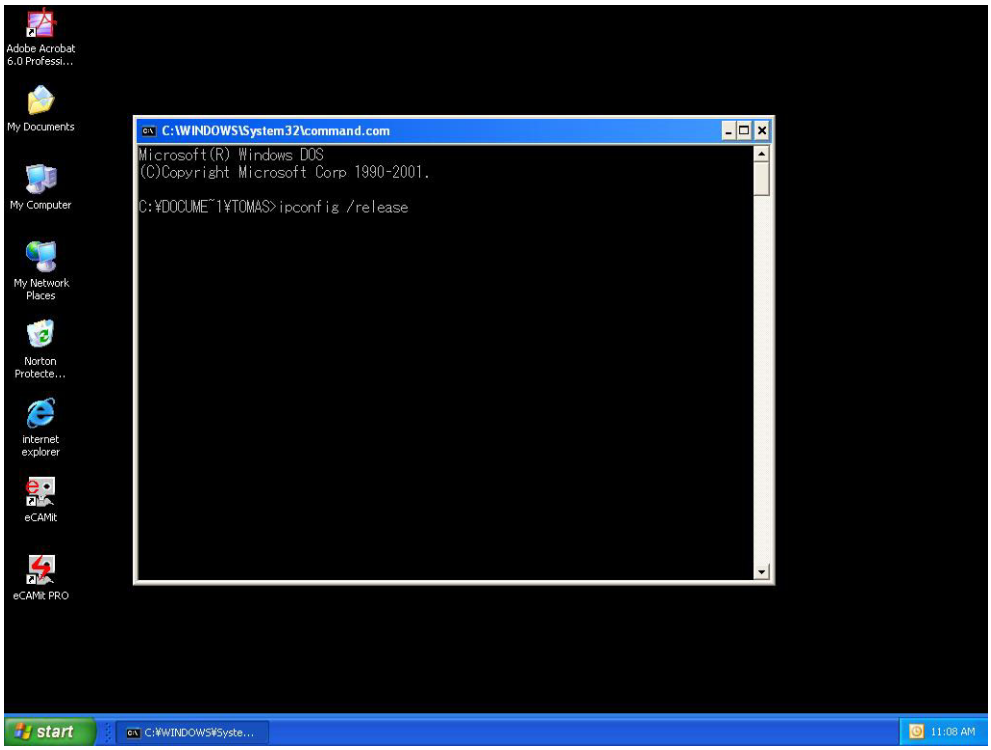
Part 2: Windows 2000 / XP



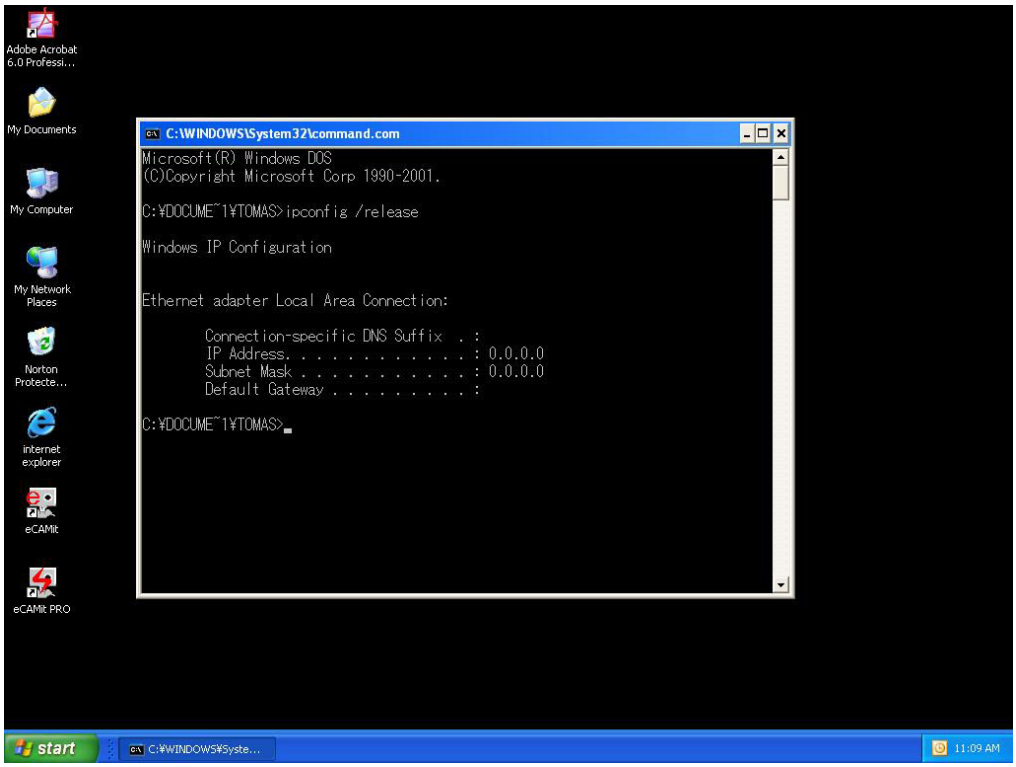
1. Click **Start**, then click **Run**



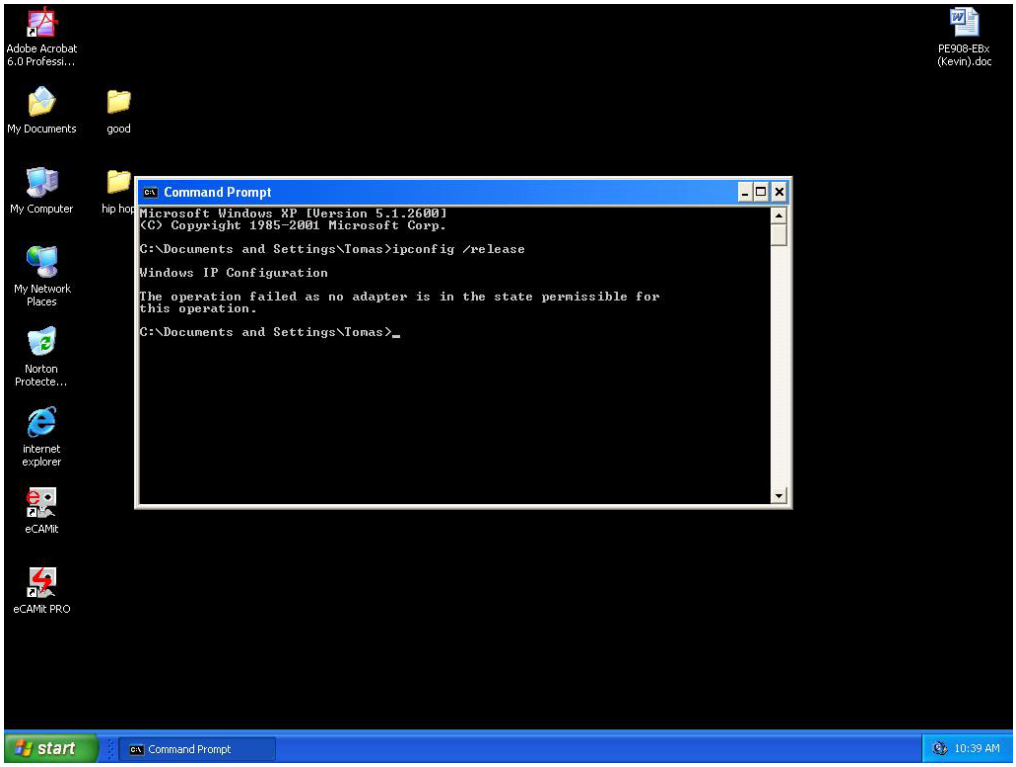
2. Type **Command** and click **OK**



3. Type **“ipconfig /release”** and press **Enter**



4. Your **IP Address** should turn to 0.0.0.0 . To **Renew** your address check **Renewing IP Address**.

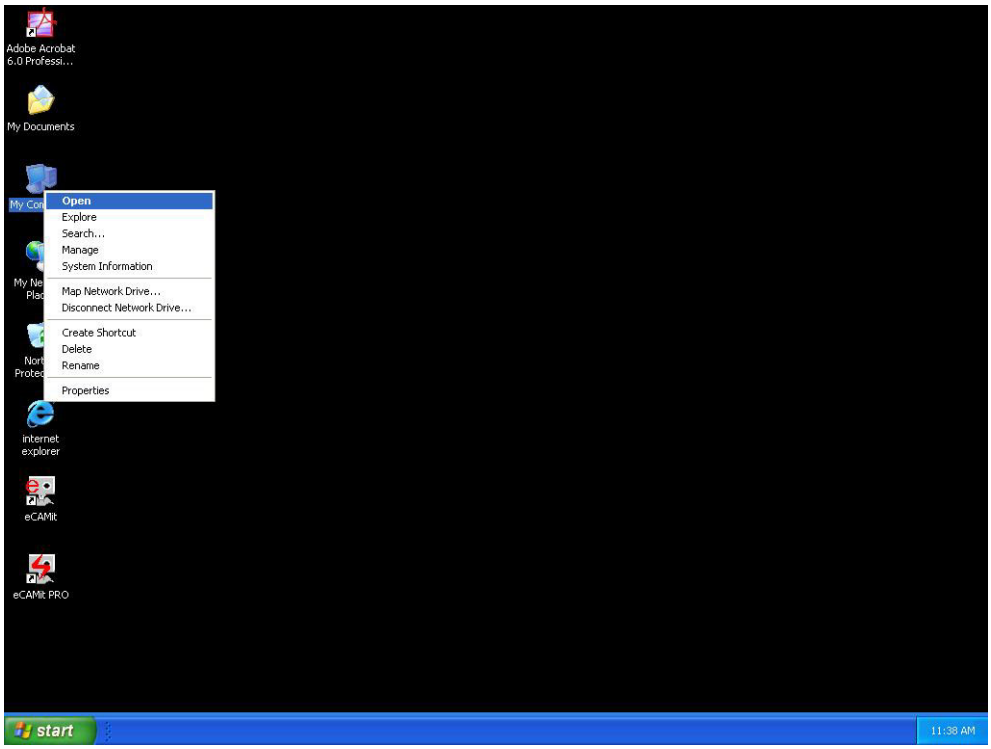


5. If you receive an Error "**The operation failed as no adapter is in the state permissible for this operation."** Then you might need to set your Network adapter to obtain your "**IP Address Automatically**".

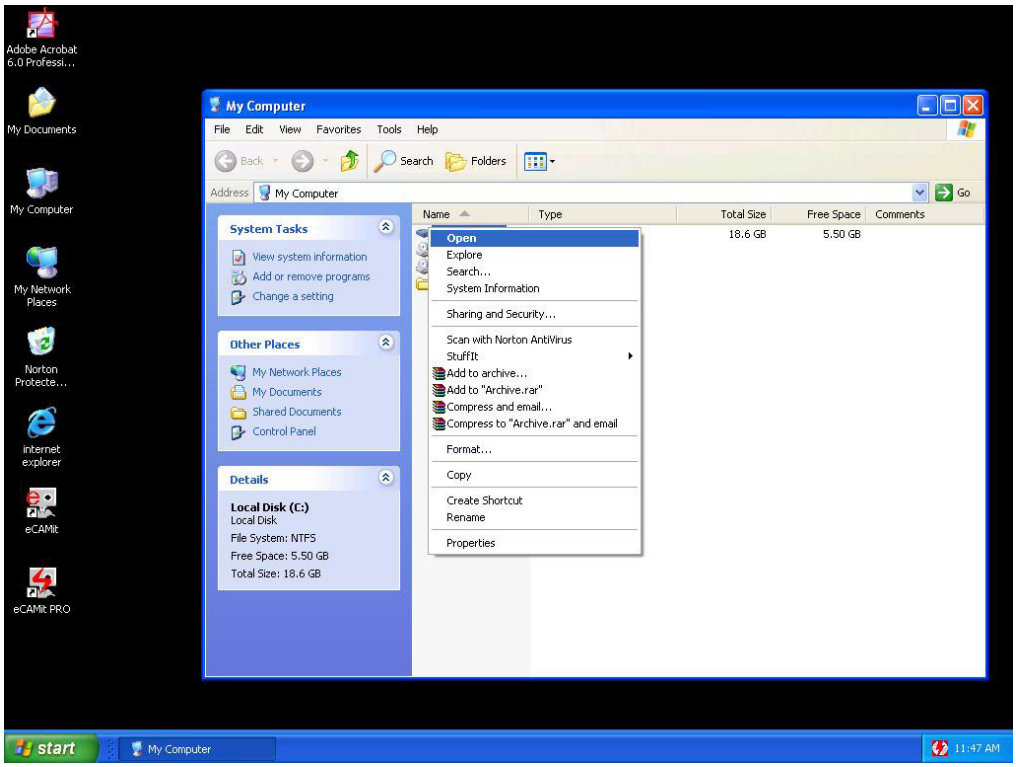
Appendix C: Local Area Network

Sharing Files (Windows 98SE / ME / 2000 / XP)

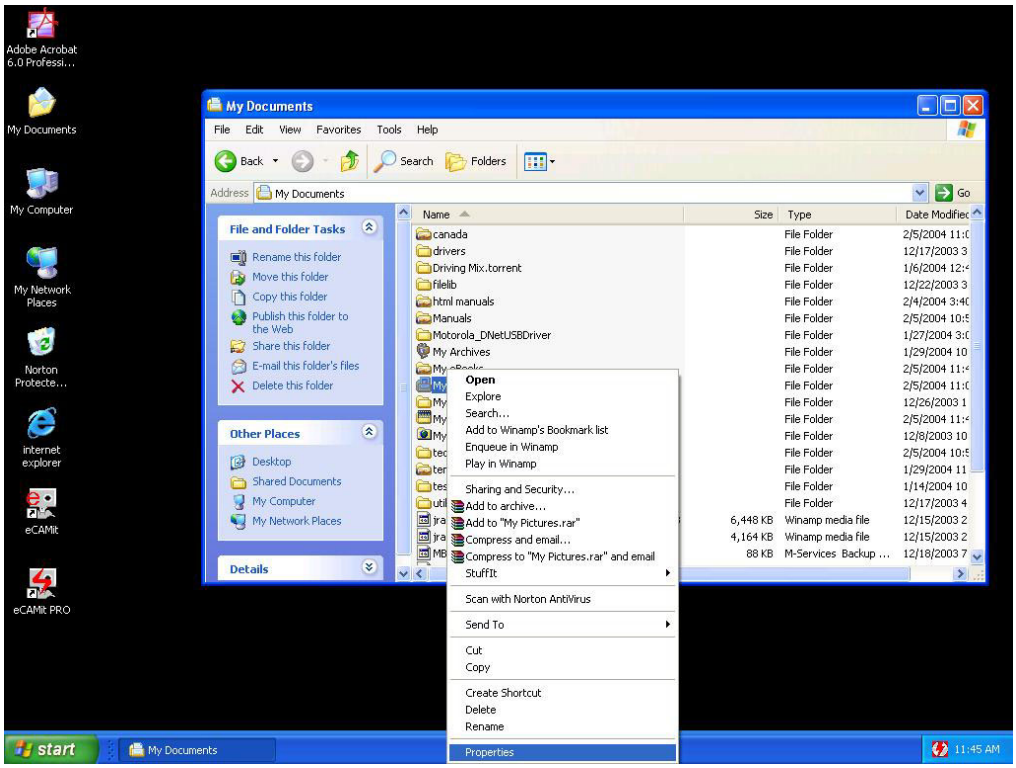
Part 1: Sharing Folders



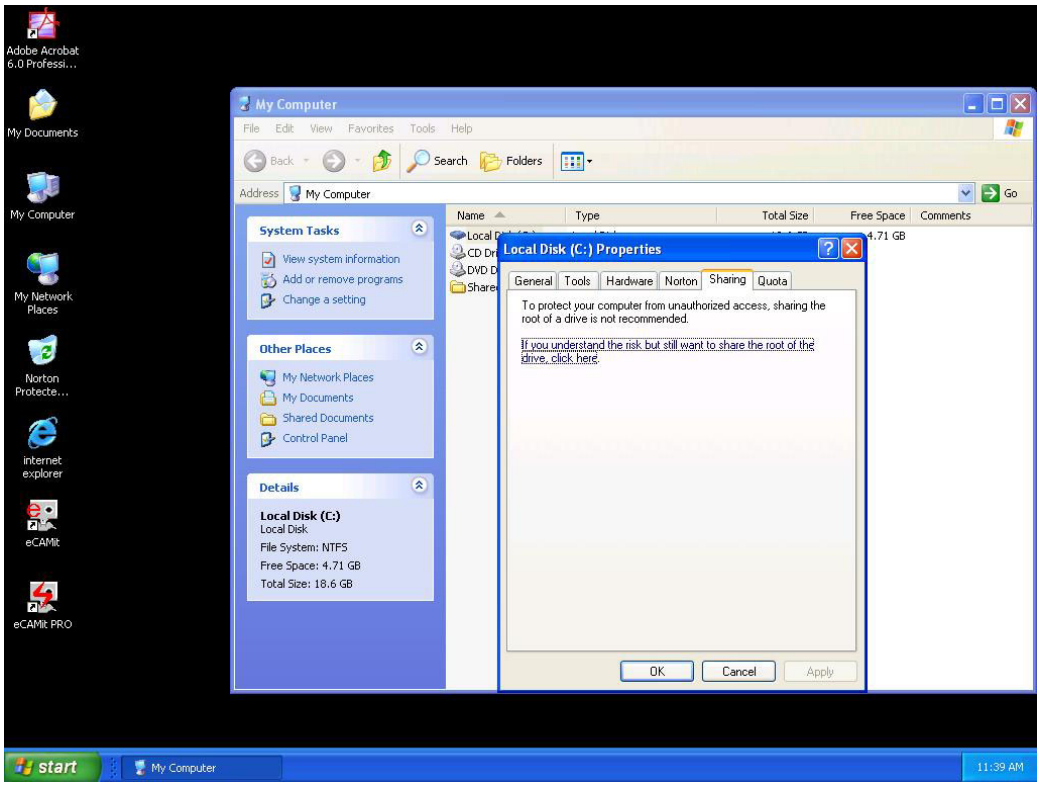
1. Double click “**My computer”** on your O/S desktop



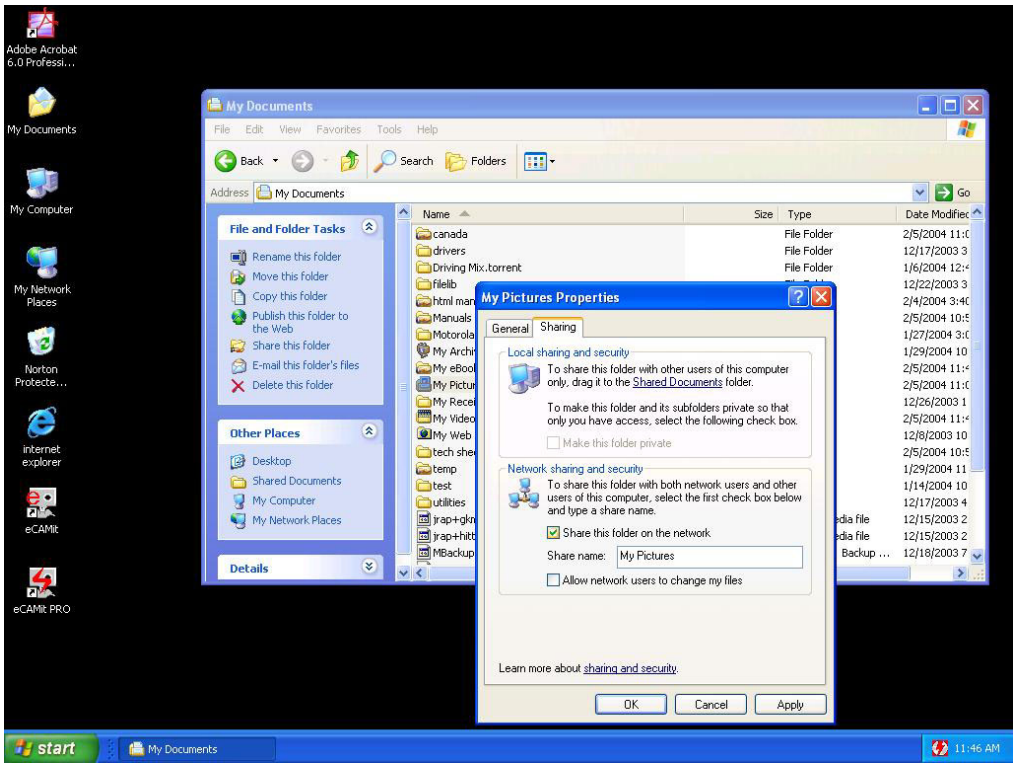
2. Double Click the Drive where the folder that you want to share is located.



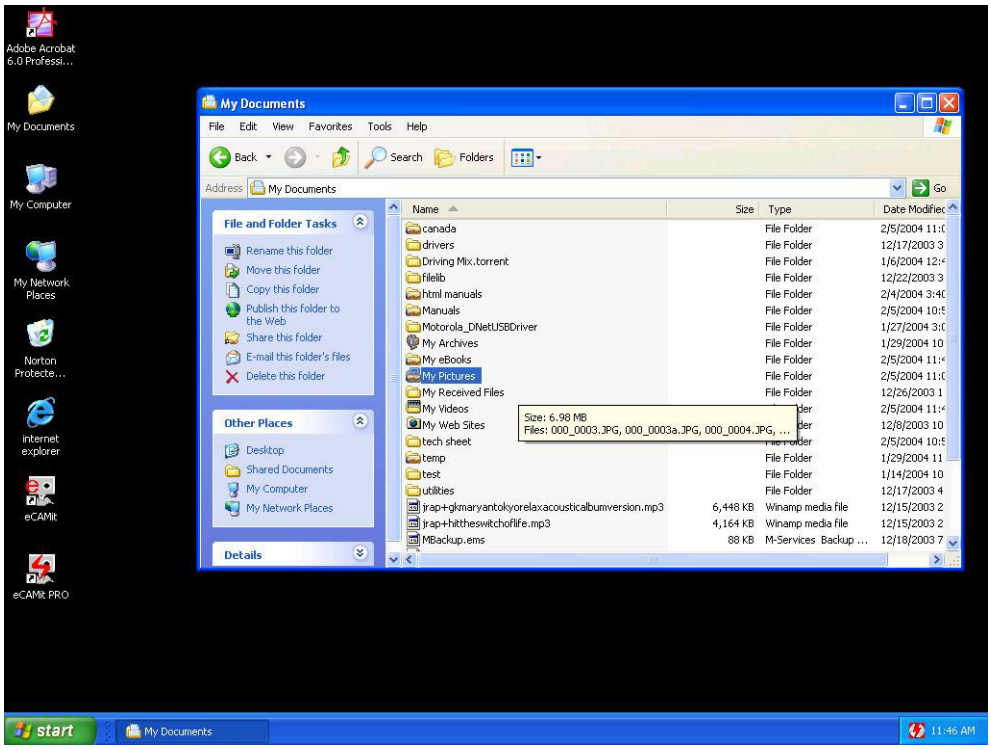
3. Right Click on the folder you want to share, and click **"Properties"**



4. Click **"If you understand the risk but still want to share the root of the drive, click here"**

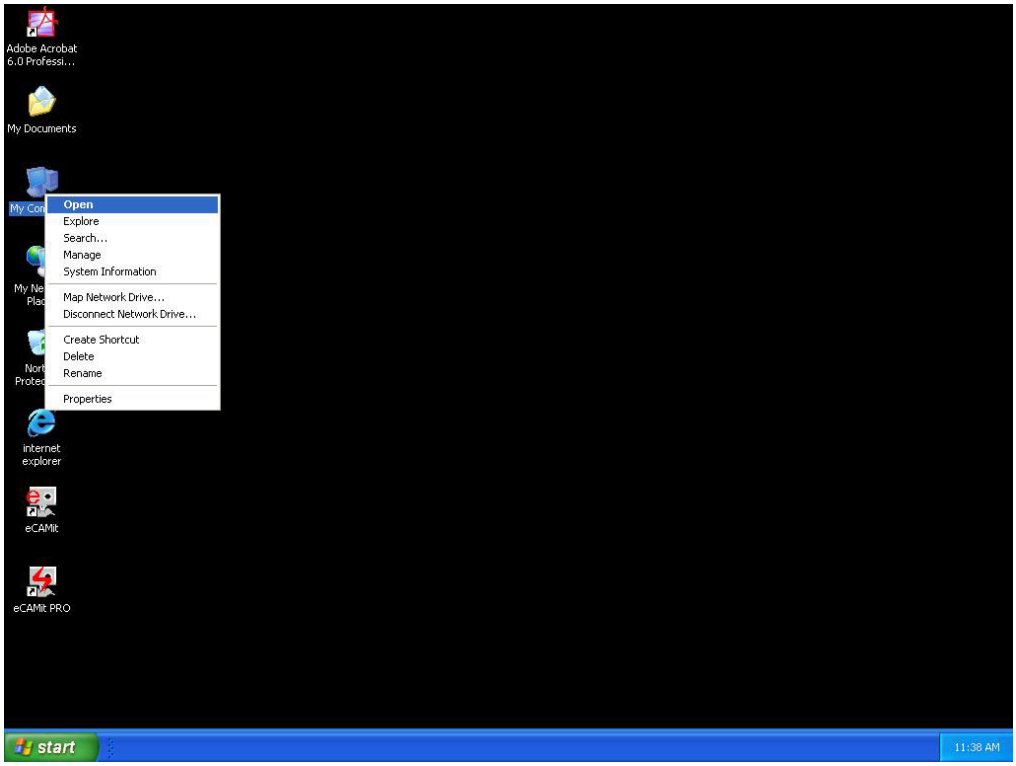

My Documents
My Pictures Properties
General
Sharing
Local sharing and security
To share this folder with other users of this computer only, drag it to the Shared Documents folder.
To make this folder and its subfolders private so that only you have access, select the following check box.
Make this folder private
Network sharing and security
To share this folder with both network users and other users of this computer, select the first check box below and type a share name.
Share this folder on the network
Share name: My Pictures
Allow network users to change my files
Learn more about sharing and security.
OK
Cancel
Apply
File and Folder Tasks
Other Places
Details
start

5. Click "**Share this folder on the network"** and specify the name you want the folder to be seen as on the network.

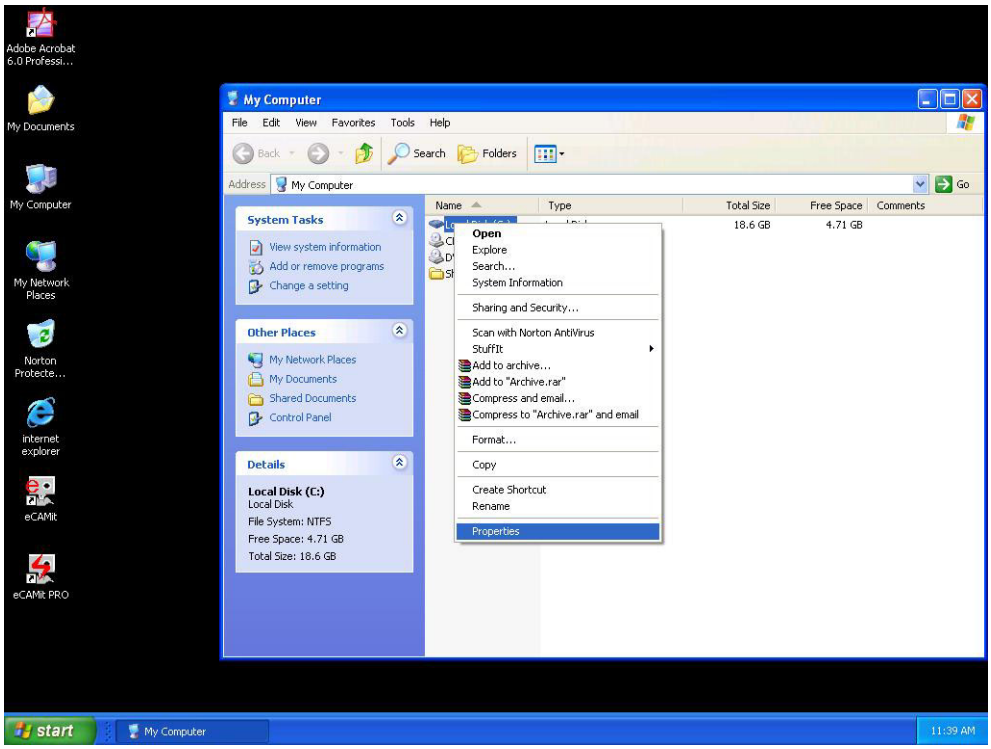


6. A Hand should appear under the folder you wanted to share letting you know that it is shared on the network.

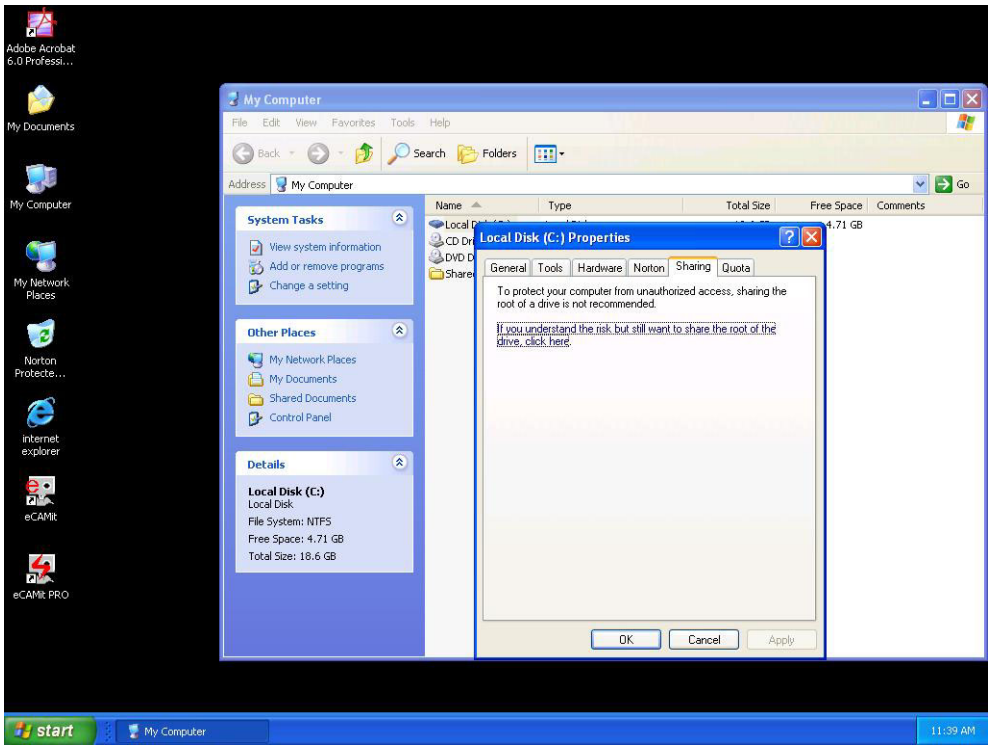
Part 2: Sharing Drives



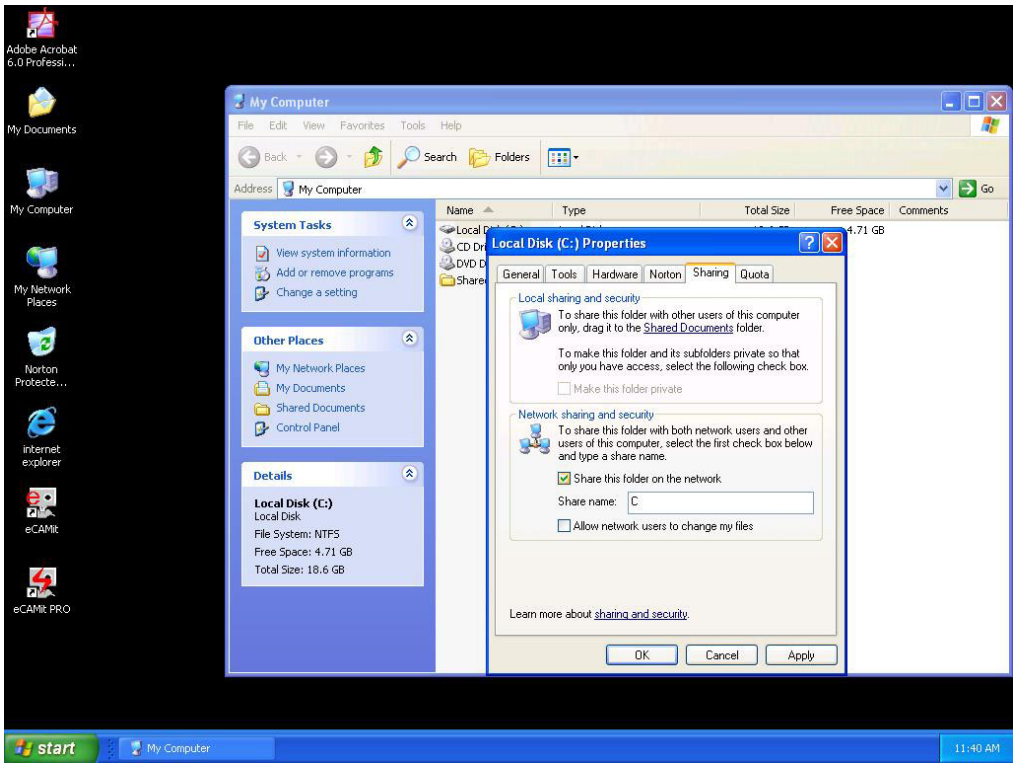
1. Right click on "**My Computer"** and click "**Properties"** on your O/S desktop



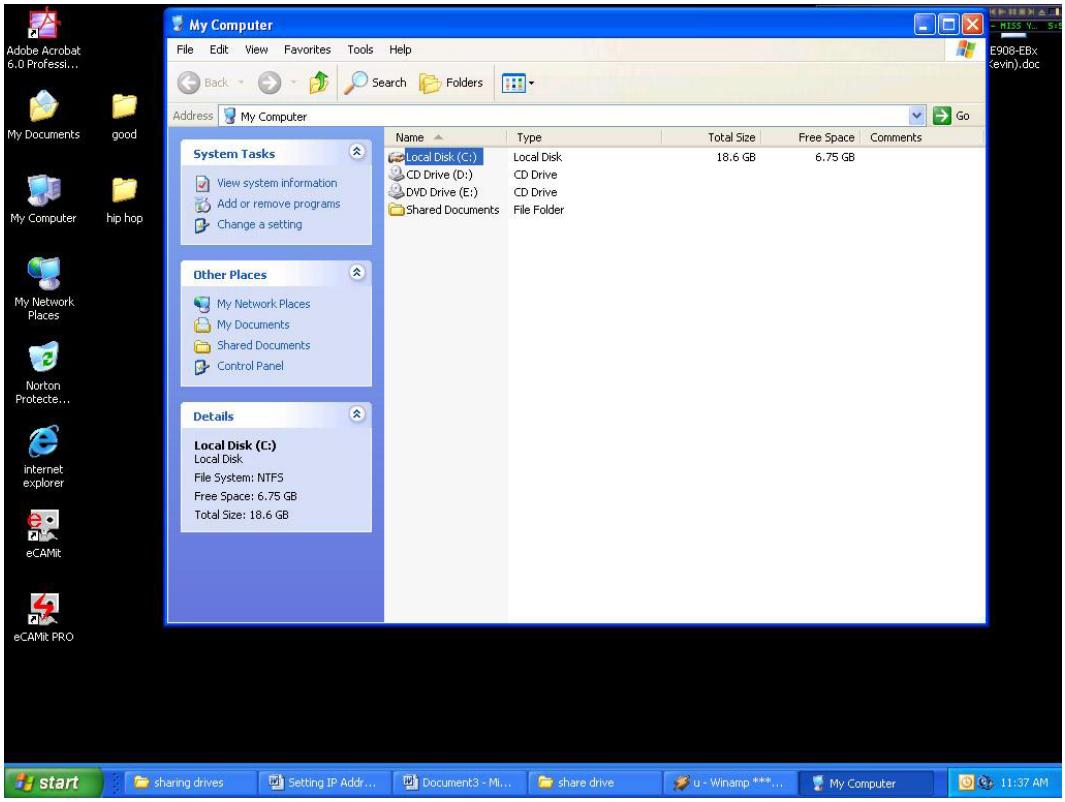
2. Right click on the drive you want to share and click "**Properties**"


My Computer
Local Disk (C:) Properties
General Tools Hardware Norton Sharing Quota
To protect your computer from unauthorized access, sharing the root of a drive is not recommended.
If you understand the risk but still want to share the root of the drive, click here.
OK Cancel Apply
System Tasks
Other Places
Details
Local Disk (C:)
Local Disk
File System: NTFS
Free Space: 4.71 GB
Total Size: 18.6 GB
start
My Computer
11:39 AM

3. click on the **Sharing** tab **"If you understand the risk but still want to share the root of the drive, click here"**


My Computer
Local Disk (C:) Properties
General
Tools
Hardware
Norton
Sharing
Quota
Local sharing and security
To share this folder with other users of this computer only, drag it to the Shared Documents folder.
To make this folder and its subfolders private so that only you have access, select the following check box.
Make this folder private
Network sharing and security
To share this folder with both network users and other users of this computer, select the first check box below and type a share name.
Share this folder on the network
Share name: C
Allow network users to change my files
Learn more about sharing and security.
OK
Cancel
Apply
System Tasks
Other Places
Details
Local Disk (C:)
Local Disk
File System: NTFS
Free Space: 4.71 GB
Total Size: 18.6 GB
start

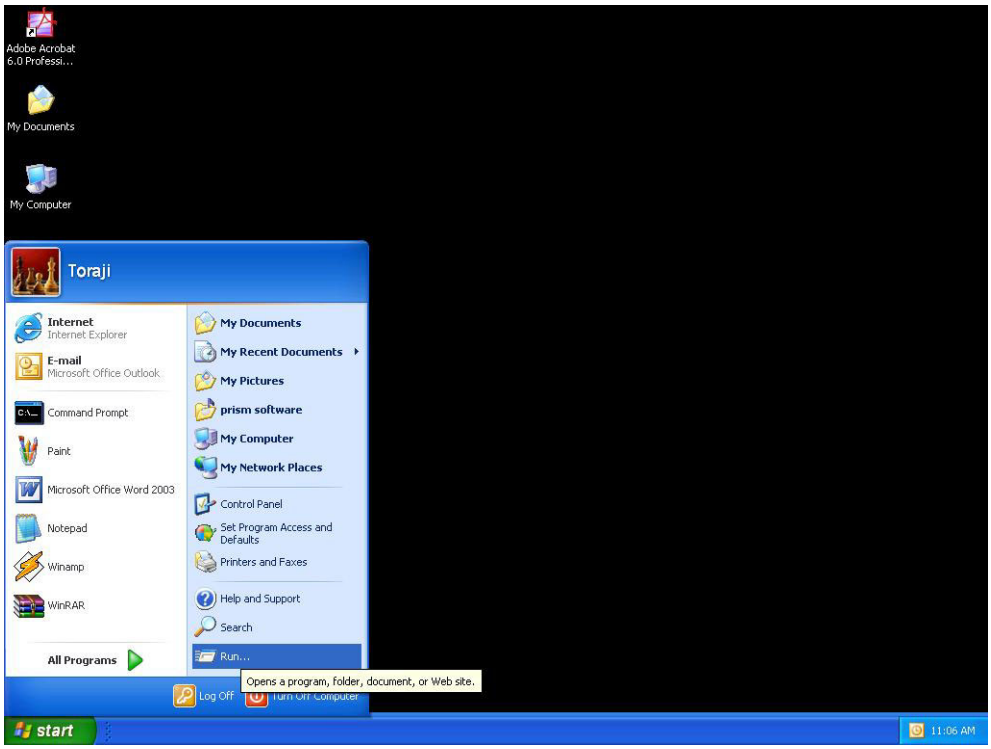
4. Click on "**Share this folder on the network"** and specify what you want your shared folder to be viewed as.



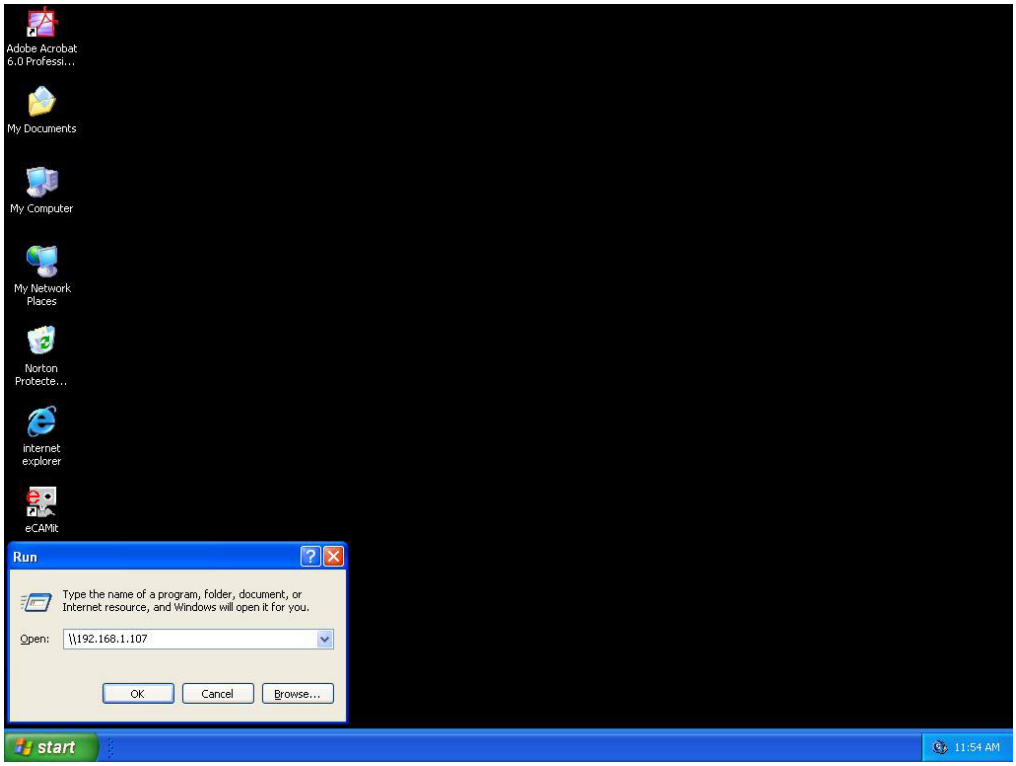
5. A hand should appear under the drive you wanted to share. This lets you know that it is shared on your network

Part 3: Accessing Other Computers Shared Files

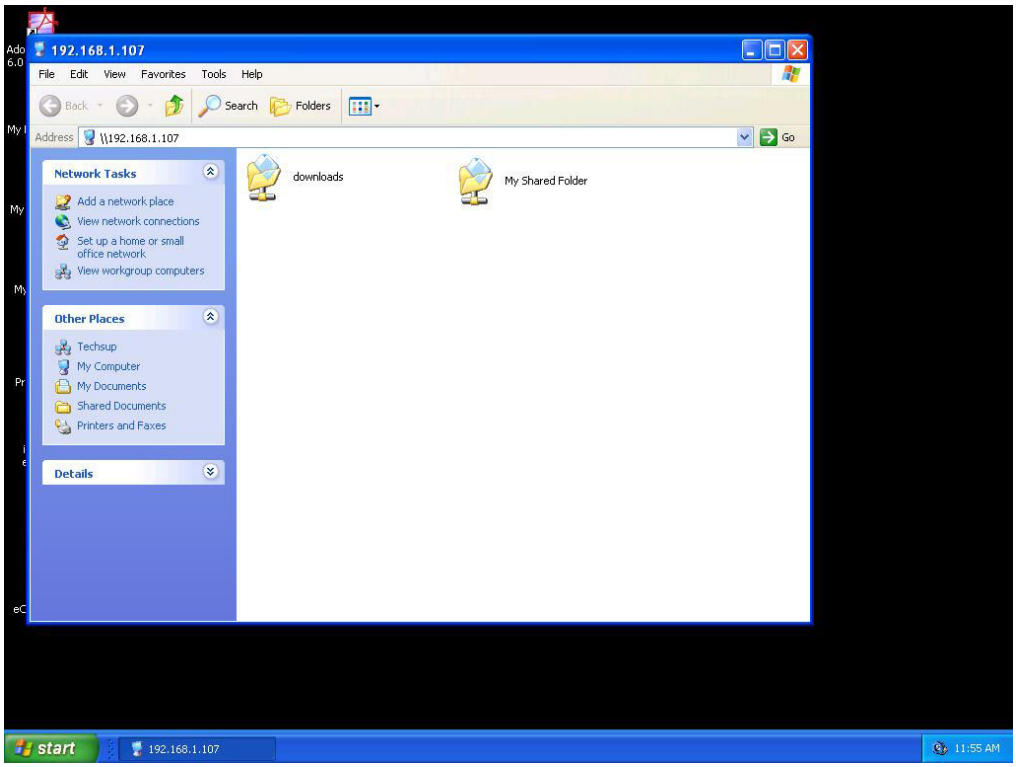
1. Find the IP Address of the computer you want to access(Look at Check IP)



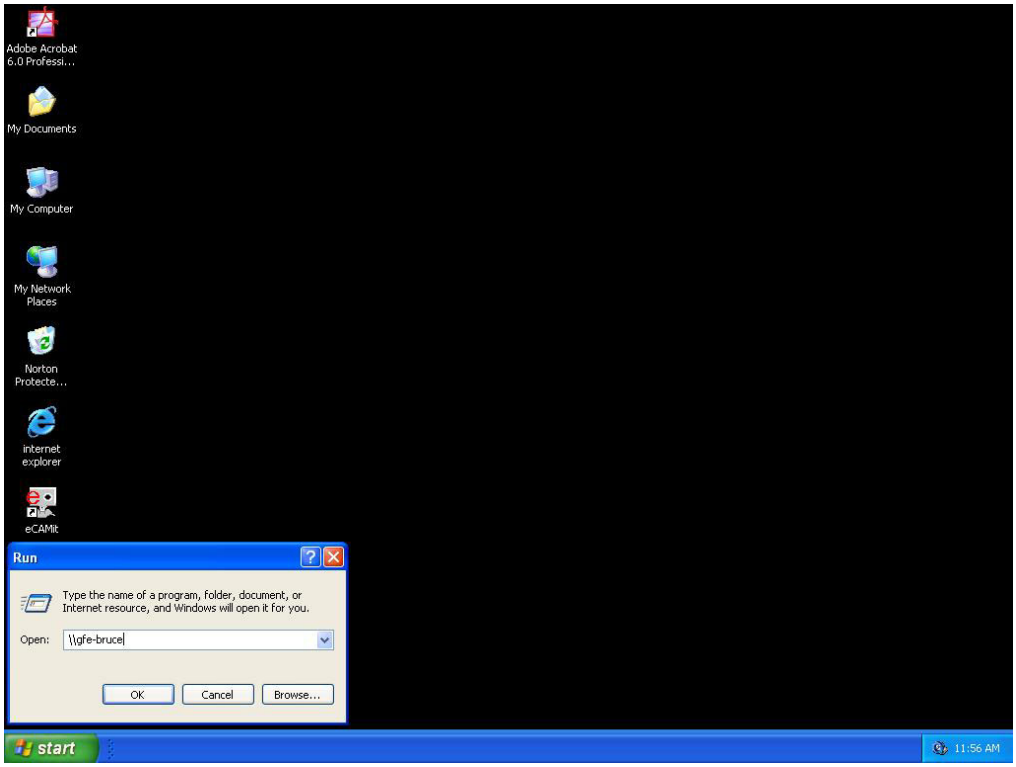
2. Click **Start**, and then click **Run**



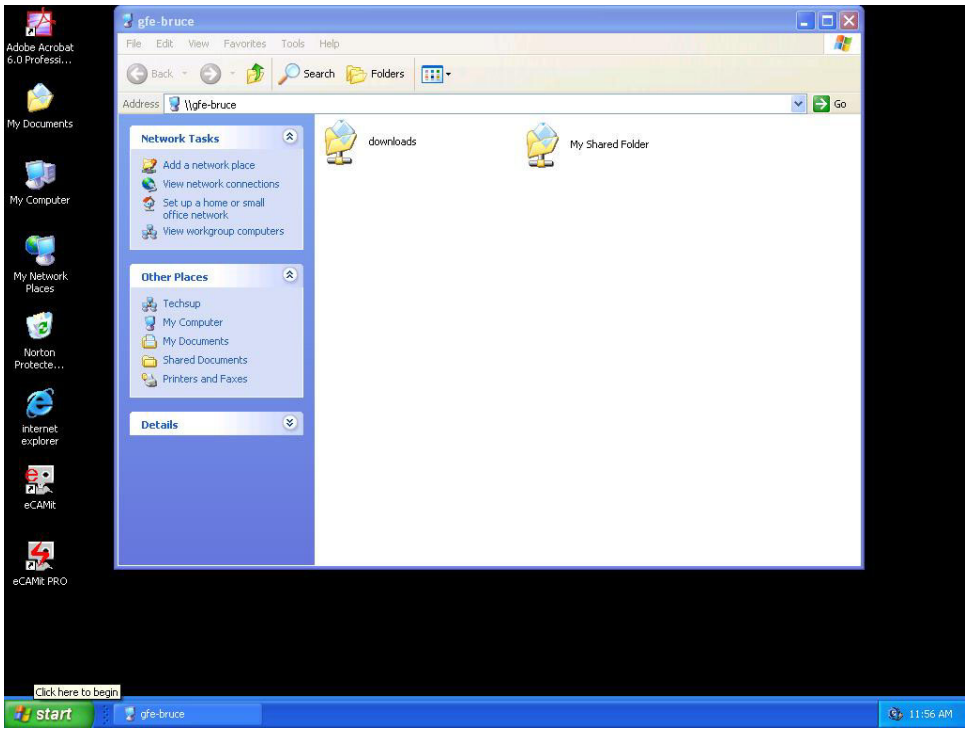
3. Type “\\” and the IP address of the computer you want to access. (Format is “XXX.XXX.XXX.XXX”)



4. All the files that the computer you are trying to access will open in a new window.



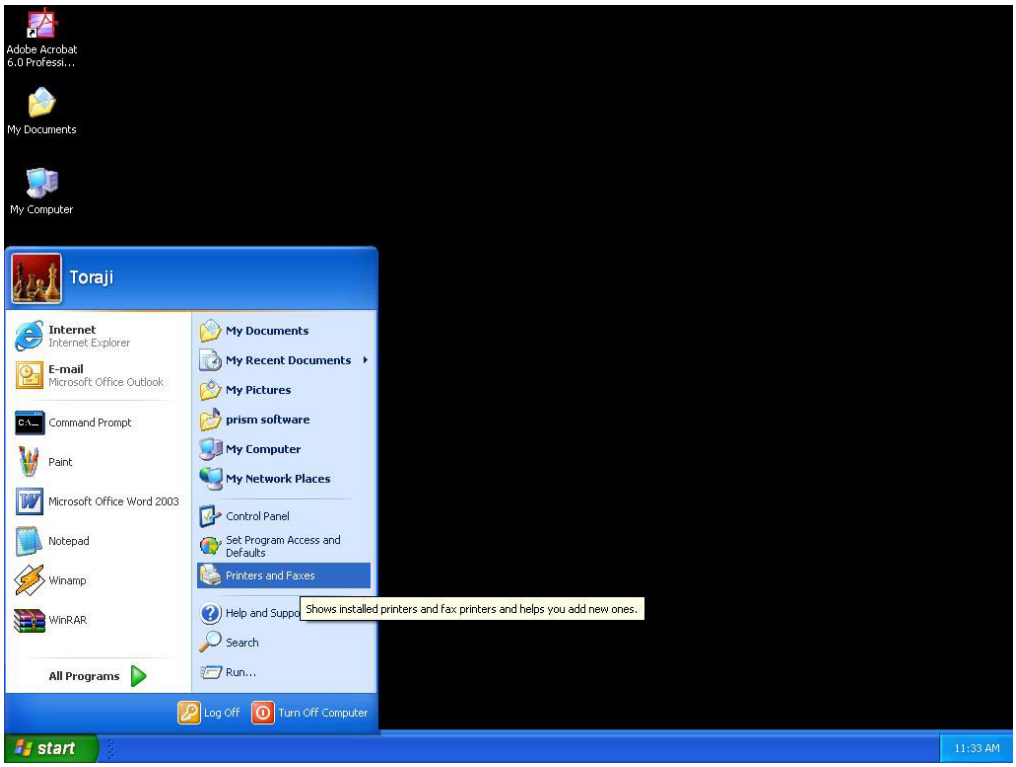
5. An Alternate way to do the same thing is to find the Computer Name of the computer you are trying to access. And typing "_____" with the computer name in the blank



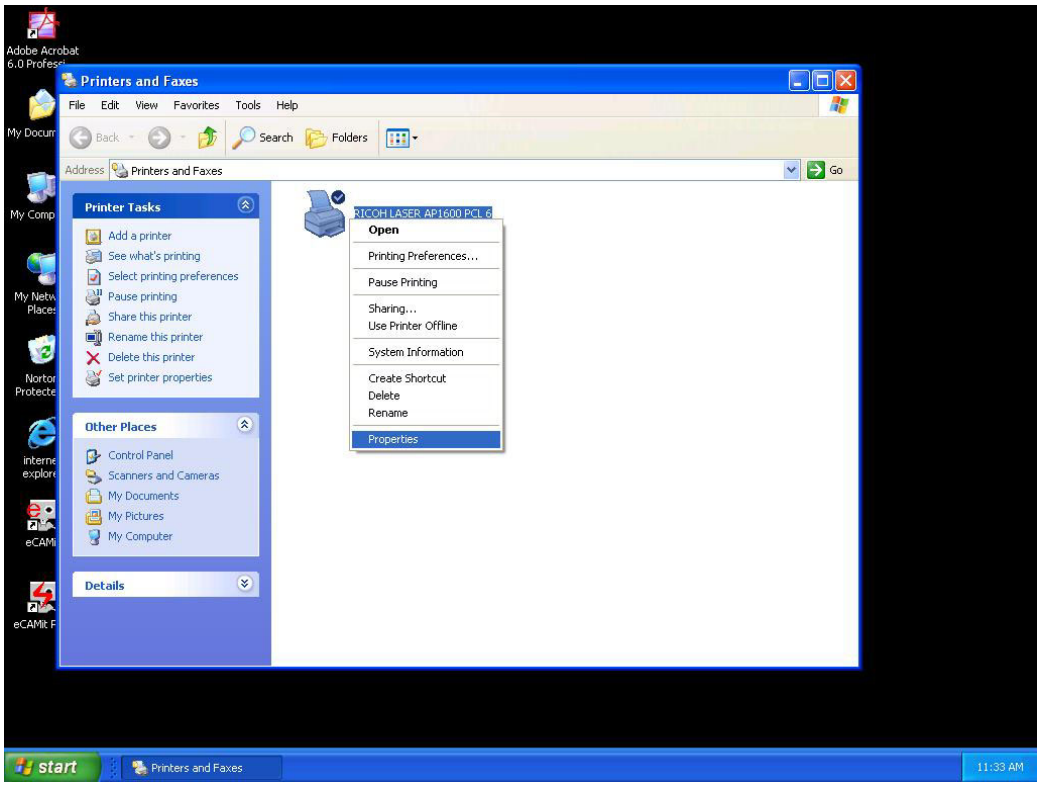
6. All the files that the computer you are trying to access will Open in a new window.

Sharing Printers (Windows 98SE / ME / 2000 / XP)

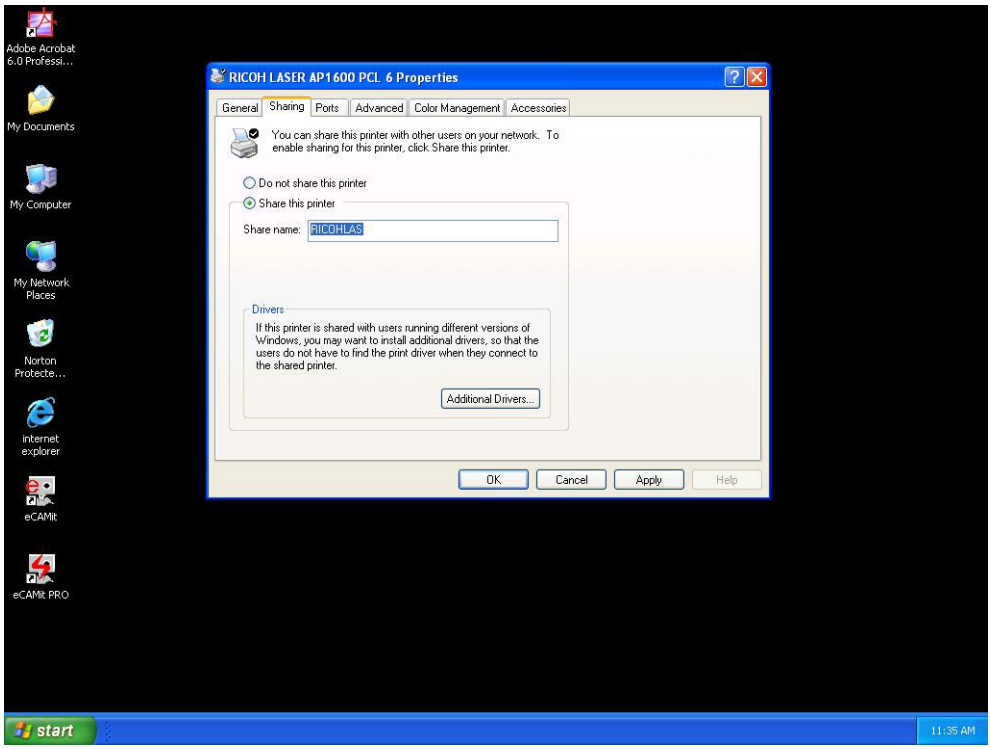
Part 1: Setup print server



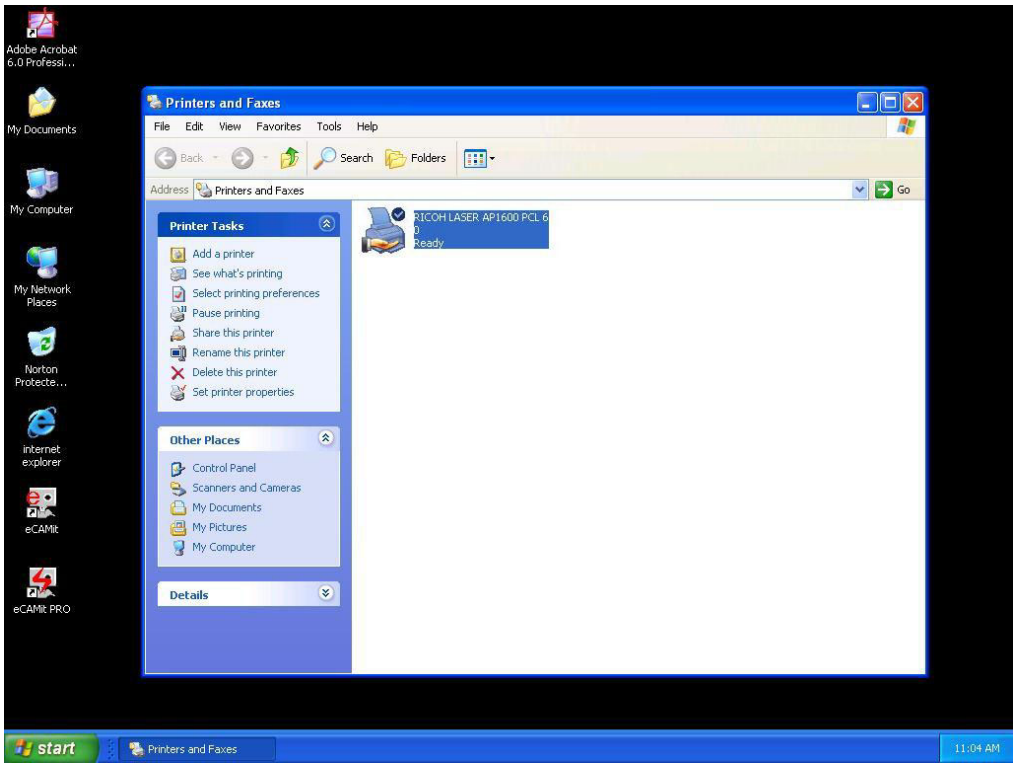
1. Click “**Start”** and click ‘**Printers and Faxes”**



2. Right click on the printer you want to share and click "**Properties**"

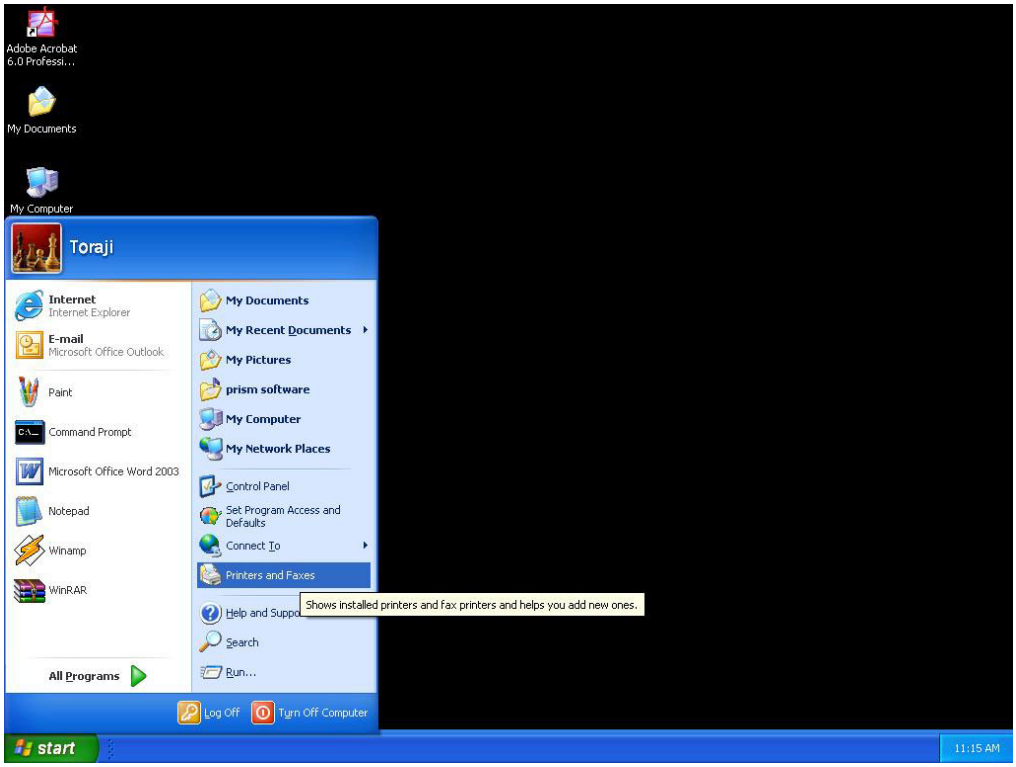

RICOH LASER AP1600 PCL 6 Properties
General Sharing Ports Advanced Color Management Accessories
You can share this printer with other users on your network. To enable sharing for this printer, click Share this printer.
Do not share this printer
Share this printer
Share name: RICOHLAS
Drivers
If this printer is shared with users running different versions of Windows, you may want to install additional drivers, so that the users do not have to find the print driver when they connect to the shared printer.
Additional Drivers...
OK Cancel Apply Help
start
11:35 AM

3. Click the "**Sharing**" tab, and click "**Share the printer**" then specify the name that you want the printer to be seen as on the network. Then click "**OK**"

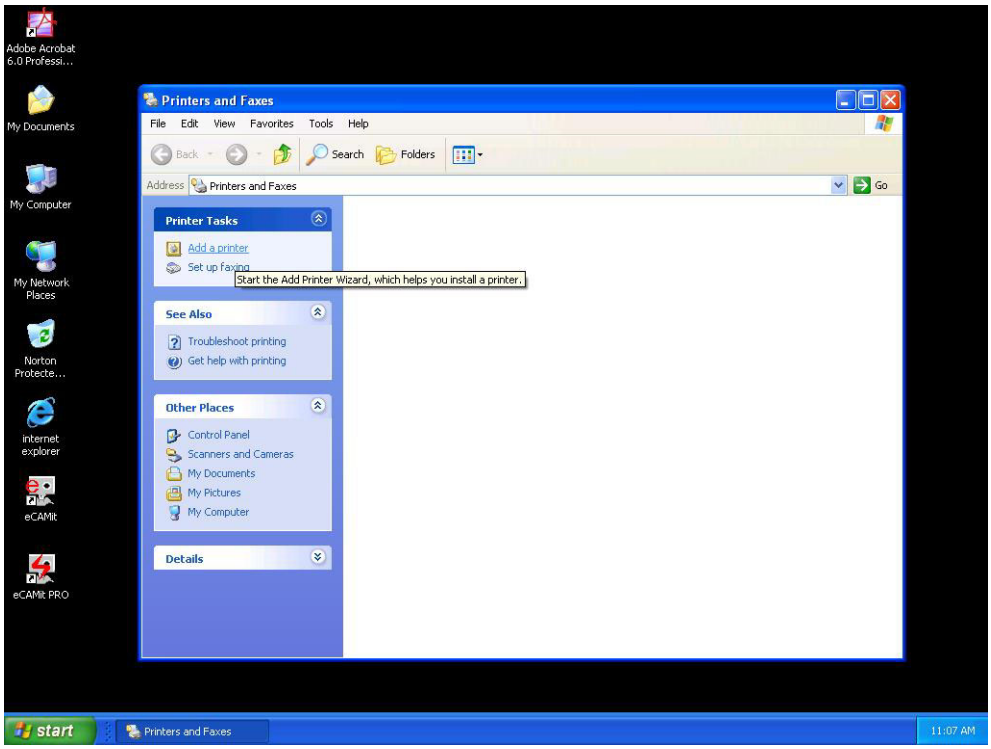


4. **A hand** should appear under the printer you want to share.

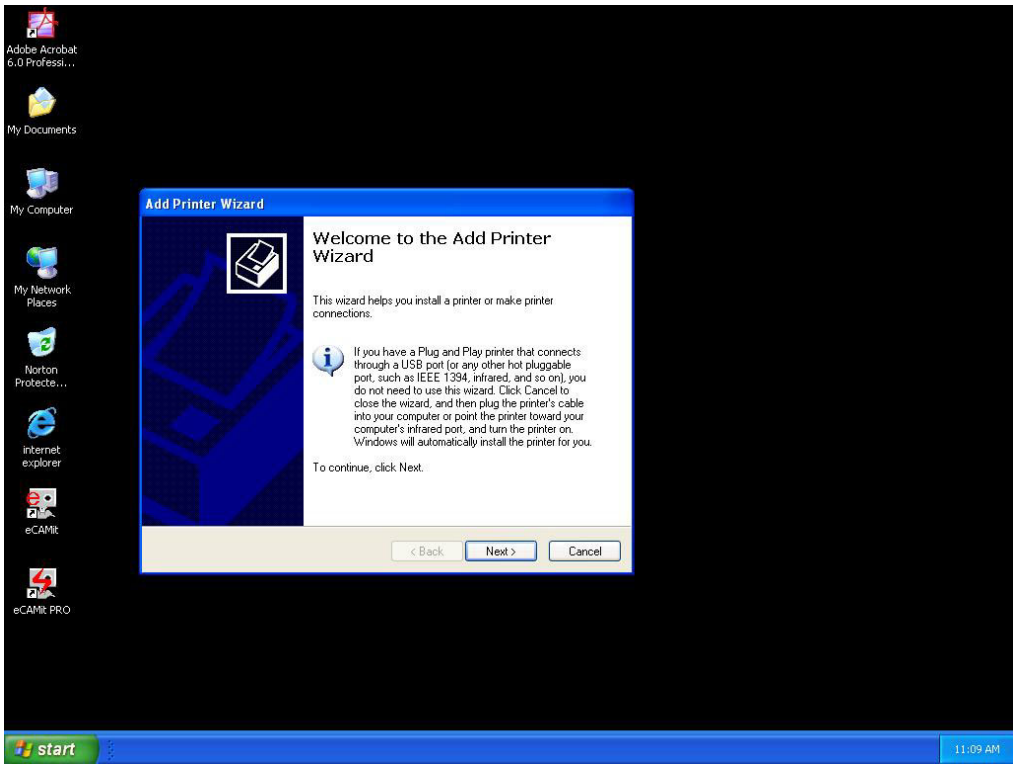
Part 2: Network Printer Installation



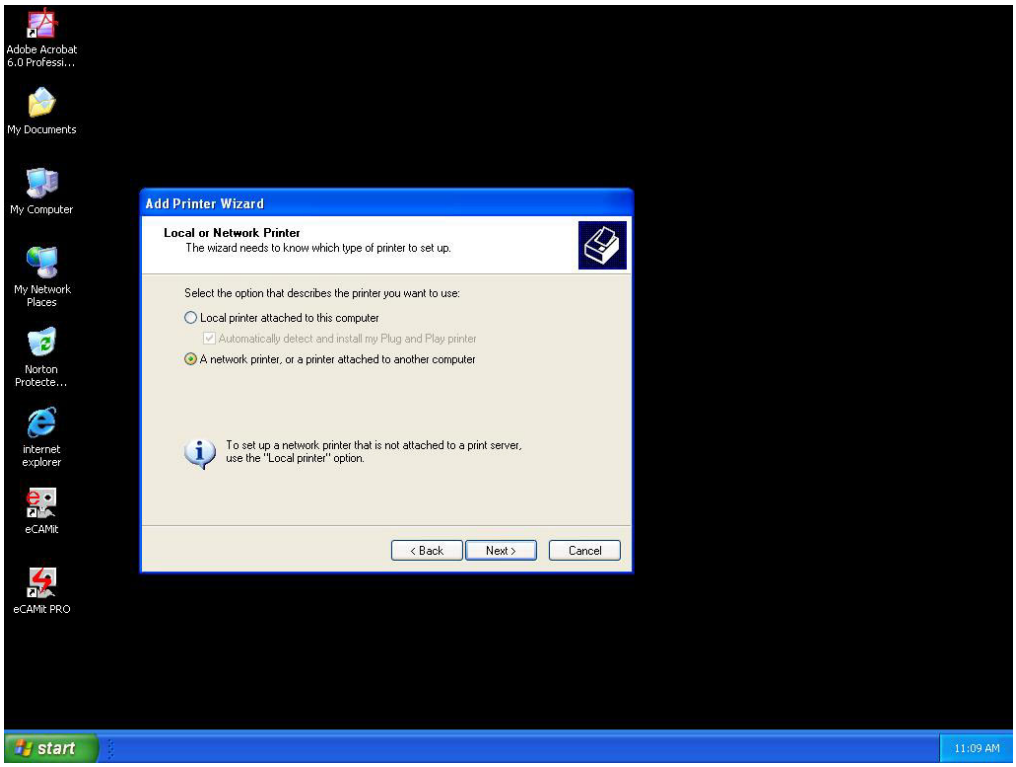
1. Click **Start** and click on **Printers and Faxes.**



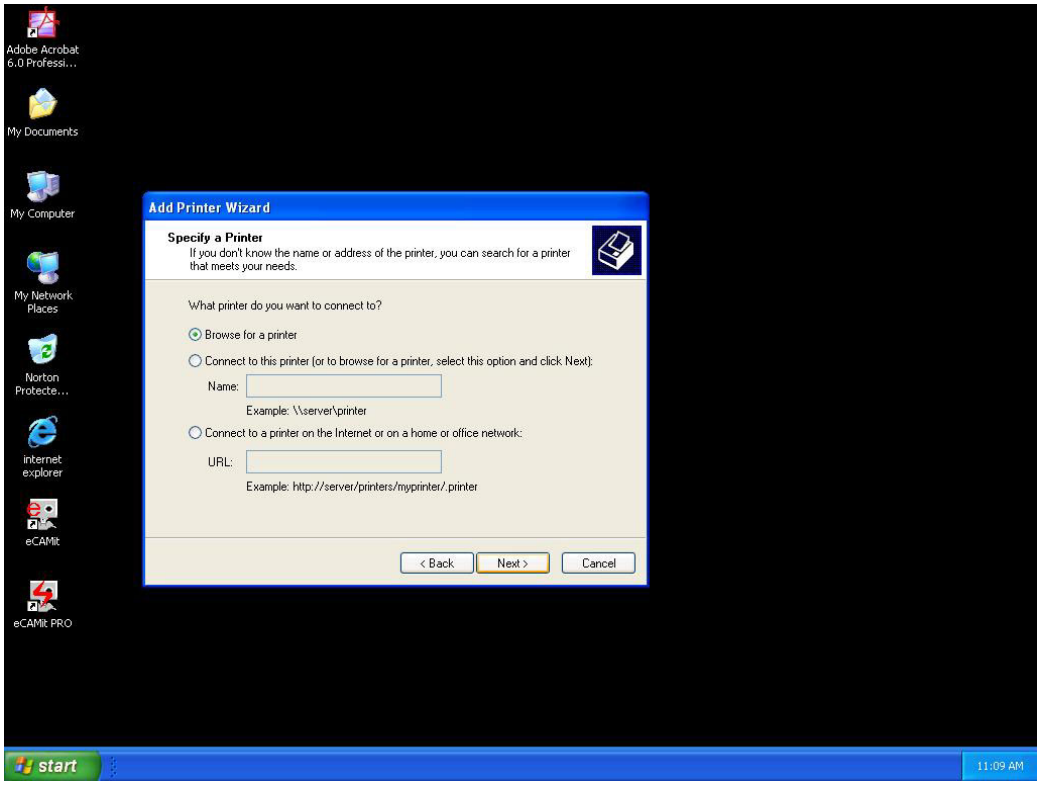
2. The **Printers and Faxes** window should open, on the left side there should be an **Add a Printer** button under **Printer Tasks**. Click on **Add a Printer**


Adobe Acrobat 6.0 Professi...
My Documents
My Computer
My Network Places
Norton Protecte...
internet explorer
eCAMit
eCAMit PRO
Add Printer Wizard
Welcome to the Add Printer Wizard
This wizard helps you install a printer or make printer connections.
If you have a Plug and Play printer that connects through a USB port (or any other hot pluggable port, such as IEEE 1394, infrared, and so on), you do not need to use this wizard. Click Cancel to close the wizard, and then plug the printer's cable into your computer or point the printer toward your computer's infrared port, and turn the printer on. Windows will automatically install the printer for you.
To continue, click Next.
< Back
Next >
Cancel
start
11:09 AM

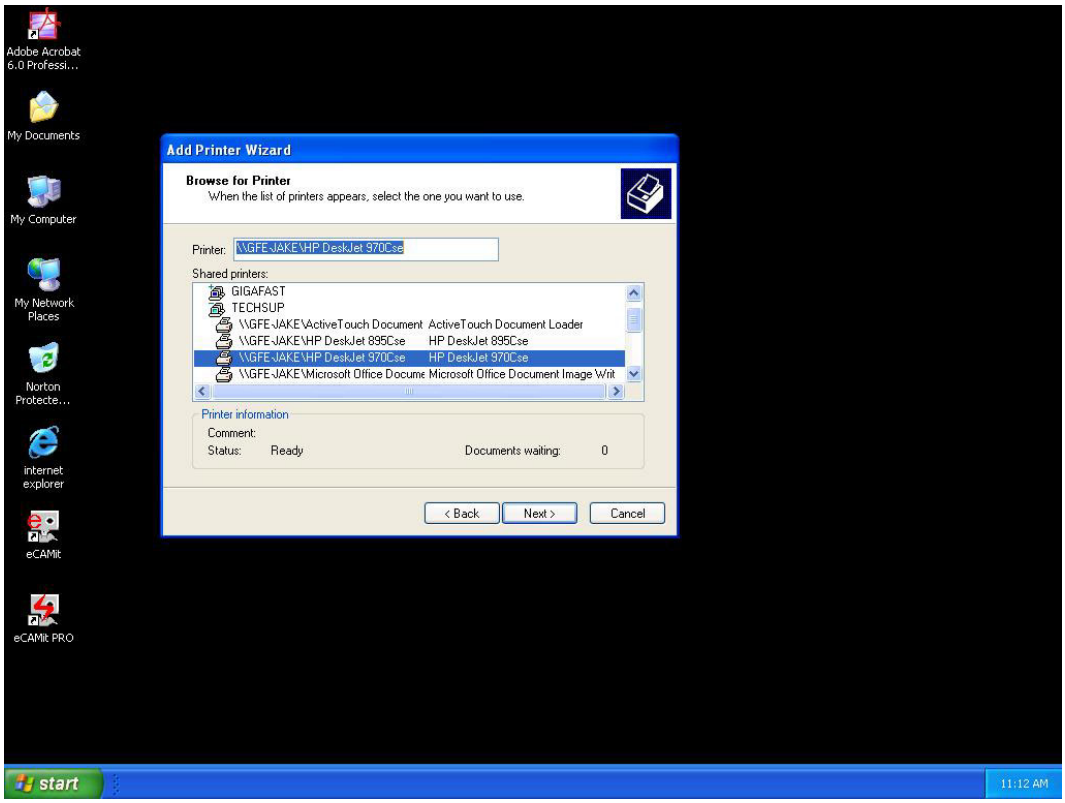
3. The **Add Printer Wizard** should appear, click **Next** to proceed


Adobe Acrobat 6.0 Professi...
My Documents
My Computer
My Network Places
Norton Protecte...
internet explorer
eCAMit
eCAMit PRO
Add Printer Wizard
Local or Network Printer
The wizard needs to know which type of printer to set up.
Select the option that describes the printer you want to use:
Local printer attached to this computer
Automatically detect and install my Plug and Play printer
A network printer, or a printer attached to another computer
To set up a network printer that is not attached to a print server, use the "Local printer" option.
< Back
Next >
Cancel
start
11:09 AM

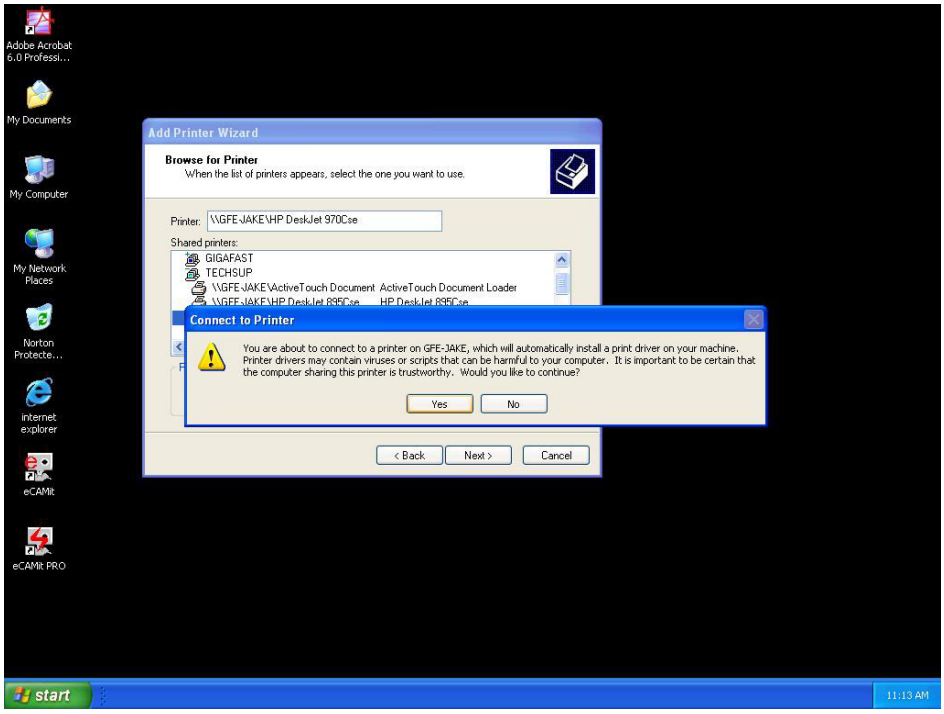
4. Select "**A network printer, or a printer attached to another computer"** and click **Next**


Adobe Acrobat 6.0 Professi...
My Documents
My Computer
My Network Places
Norton Protecte...
internet explorer
eCAMit
eCAMit PRO
Add Printer Wizard
Specify a Printer
If you don't know the name or address of the printer, you can search for a printer that meets your needs.
What printer do you want to connect to?
Browse for a printer
Connect to this printer (or to browse for a printer, select this option and click Next):
Name:
Example: \\server\printer
Connect to a printer on the Internet or on a home or office network:
URL:
Example: http://server/printers/myprinter/.printer
< Back
Next >
Cancel
start
11:09 AM

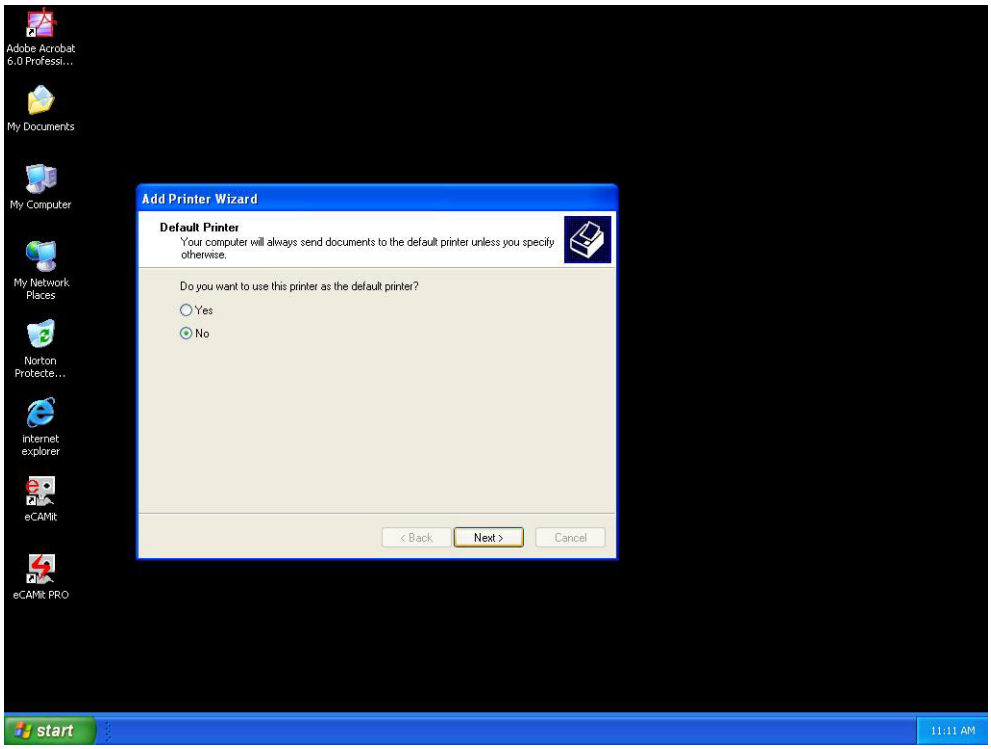
5. Click **"Browse for a printer**", unless you know the computer name (or IP address) of the printer, and the exact printer name. Or the printer is at a location that can be connected to through the internet. And click **Next**



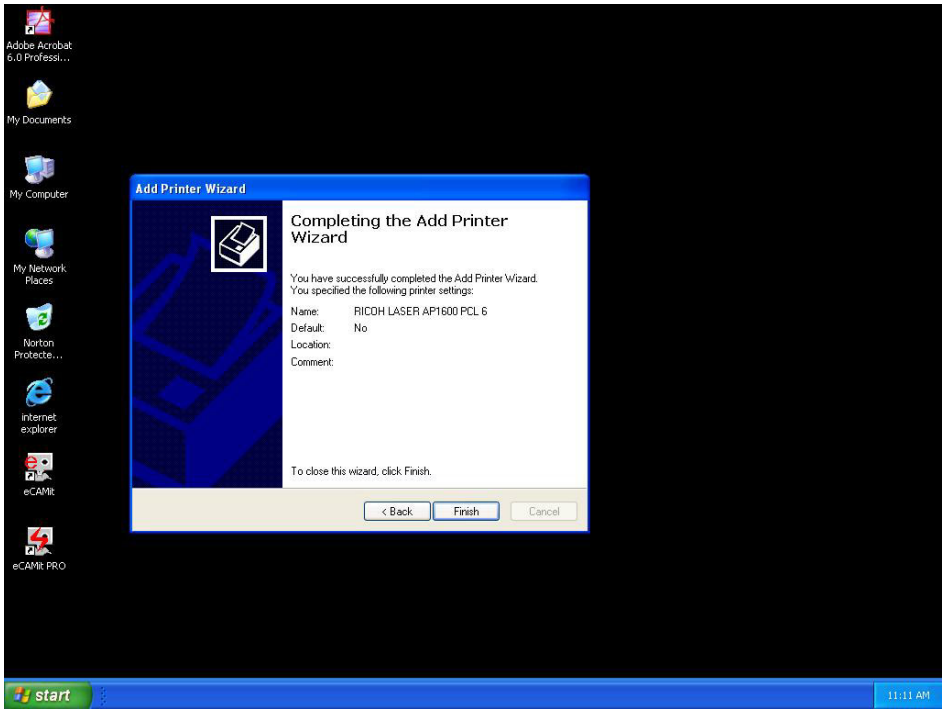
6. Browse through your network and select the printer that you want to add, **Highlight** it, and click **Next**


Adobe Acrobat 6.0 Professi...
My Documents
My Computer
My Network Places
Norton Protecte...
internet explorer
eCAMit
eCAMit PRO
Add Printer Wizard
Browse for Printer
When the list of printers appears, select the one you want to use.
Printer: \\GFE-JAKE\HP DeskJet 970Cse
Shared printers:
GIGAFAST
TECHSUP
\\GFE-JAKE\ActiveTouch Document ActiveTouch Document Loader
Connect to Printer
You are about to connect to a printer on GFE-JAKE, which will automatically install a print driver on your machine. Printer drivers may contain viruses or scripts that can be harmful to your computer. It is important to be certain that the computer sharing this printer is trustworthy. Would you like to continue?
Yes
No
< Back
Next >
Cancel
start
11:13 AM

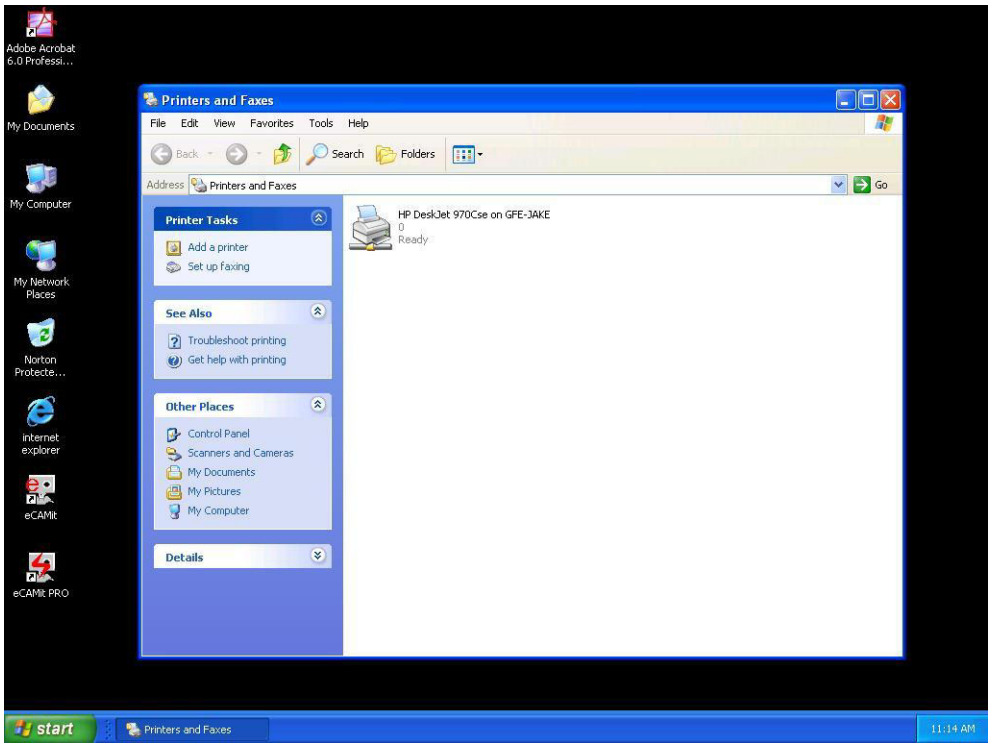
7. Click **Yes** to proceed



8. Unless you want this to be your default printer, click **NO**, otherwise click **YES** and click Next



9. Click **Finish** to finish the network installation

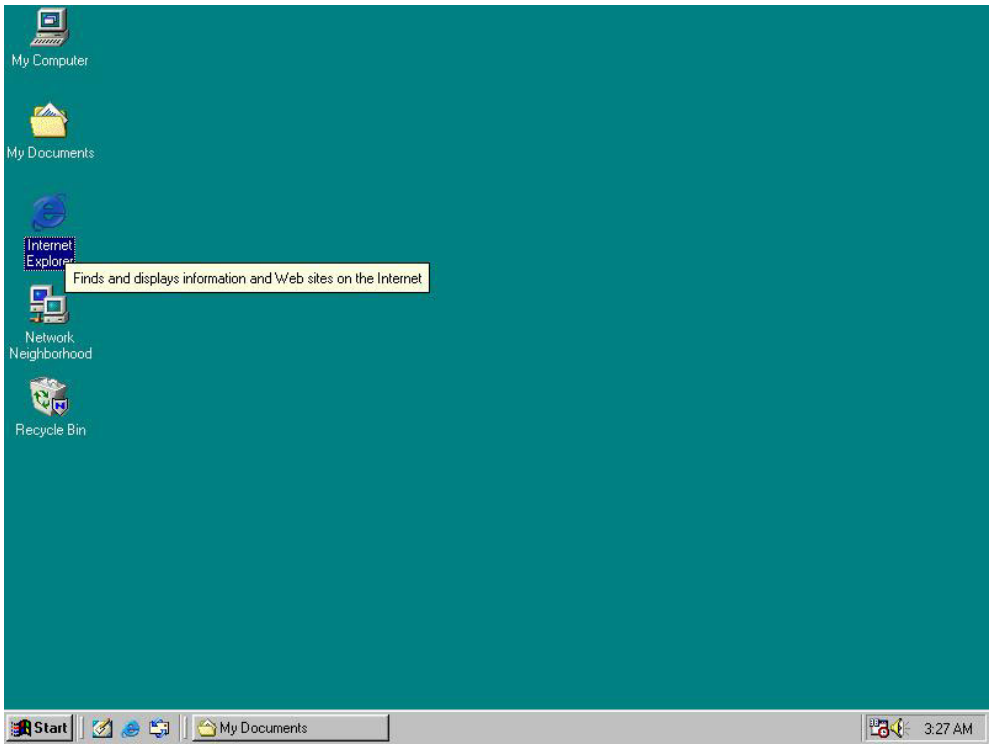


10. The printer should now be installed on your computer.

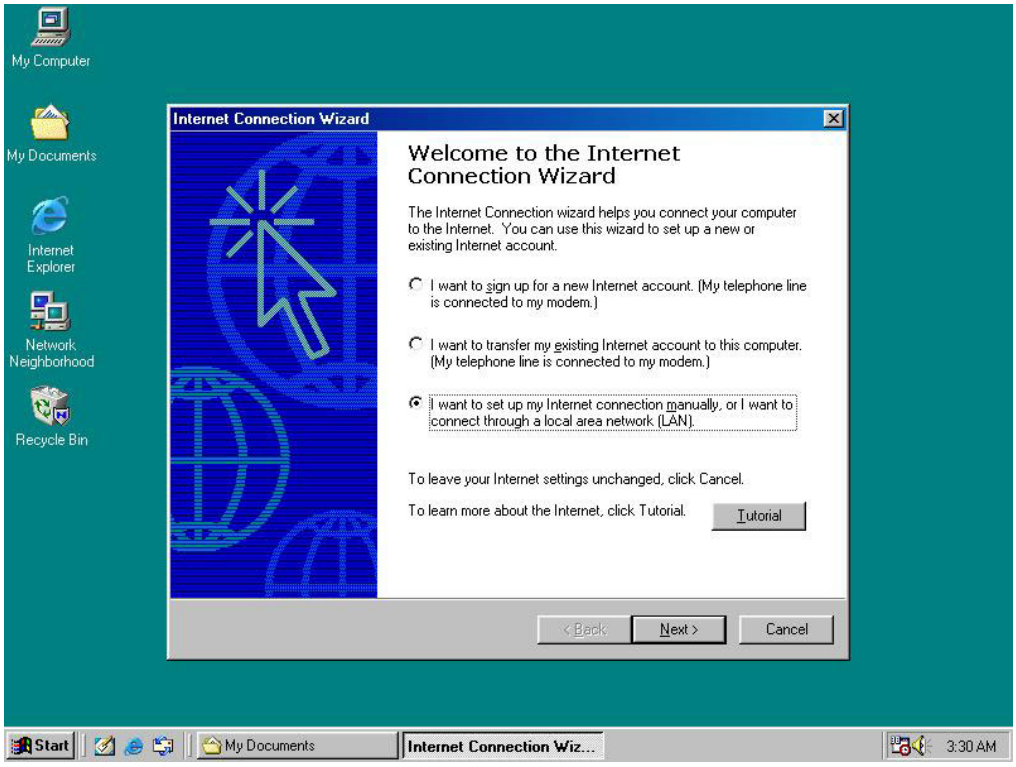
Note You may need to install drivers for the printer you want to install, so make sure you have them available before trying to install any printer.

Access Internet

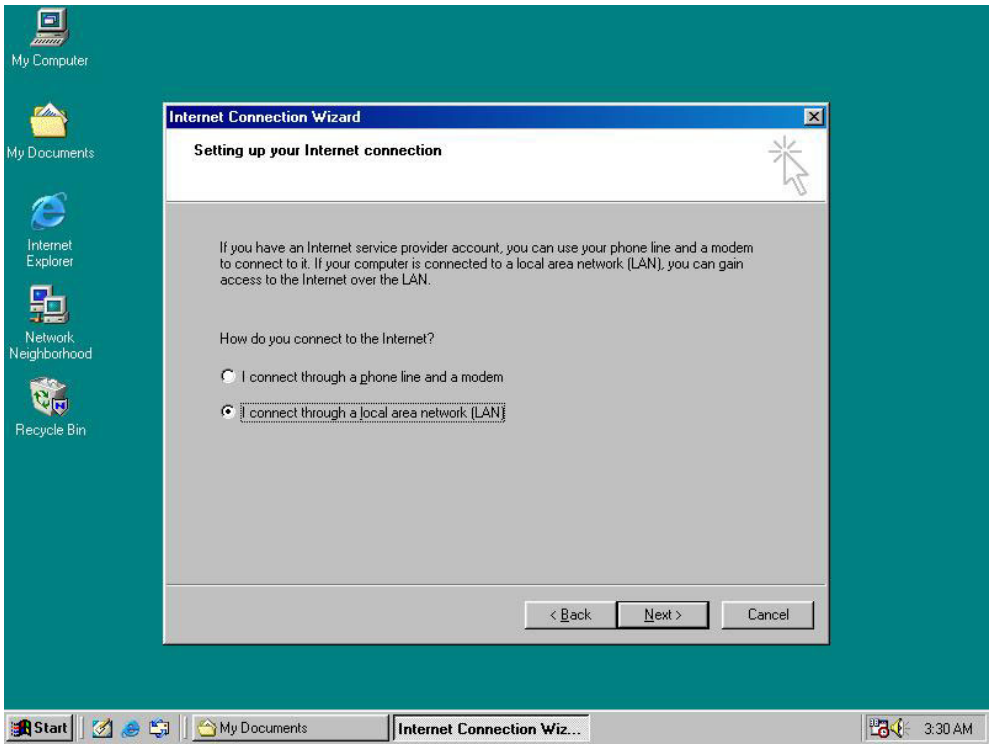
Part 1: Windows 98SE / ME



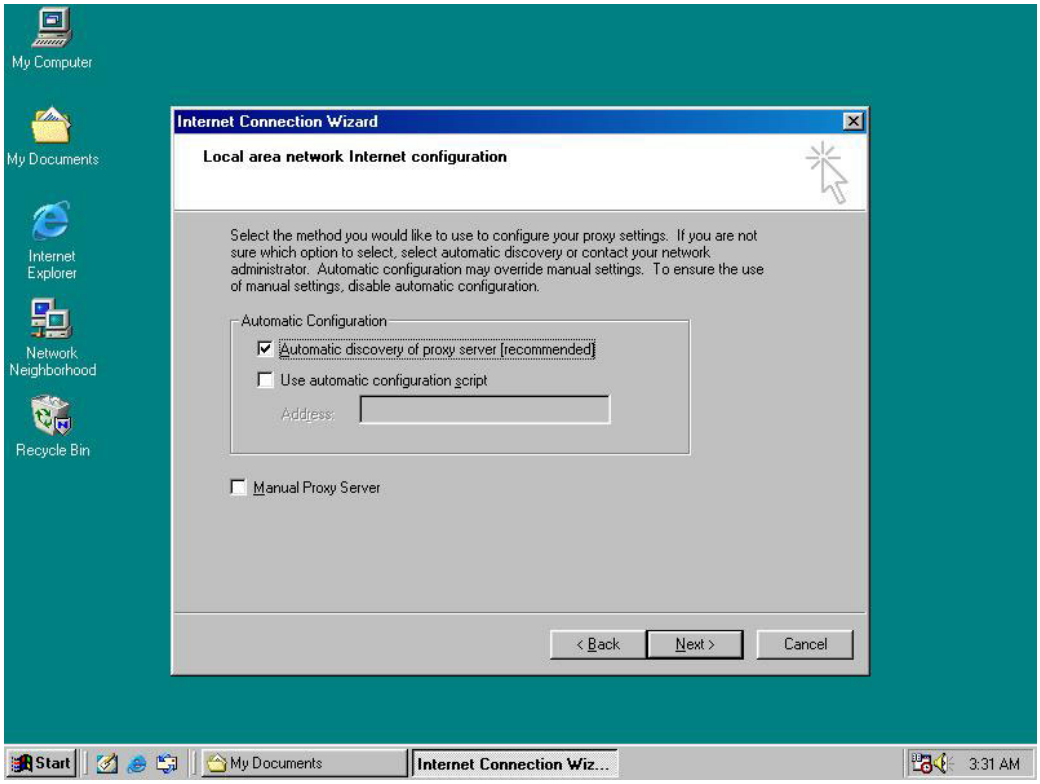
1. Double Click **Internet Explorer**


My Computer
My Documents
Internet Explorer
Network Neighborhood
Recycle Bin
Internet Connection Wizard
Welcome to the Internet Connection Wizard
The Internet Connection wizard helps you connect your computer to the Internet. You can use this wizard to set up a new or existing Internet account.
I want to sign up for a new Internet account. (My telephone line is connected to my modem.)
I want to transfer my existing Internet account to this computer. (My telephone line is connected to my modem.)
I want to set up my Internet connection manually, or I want to connect through a local area network (LAN).
To leave your Internet settings unchanged, click Cancel.
To learn more about the Internet, click Tutorial.
Tutorial
< Back
Next >
Cancel
Start
My Documents
Internet Connection Wiz...
3:30 AM

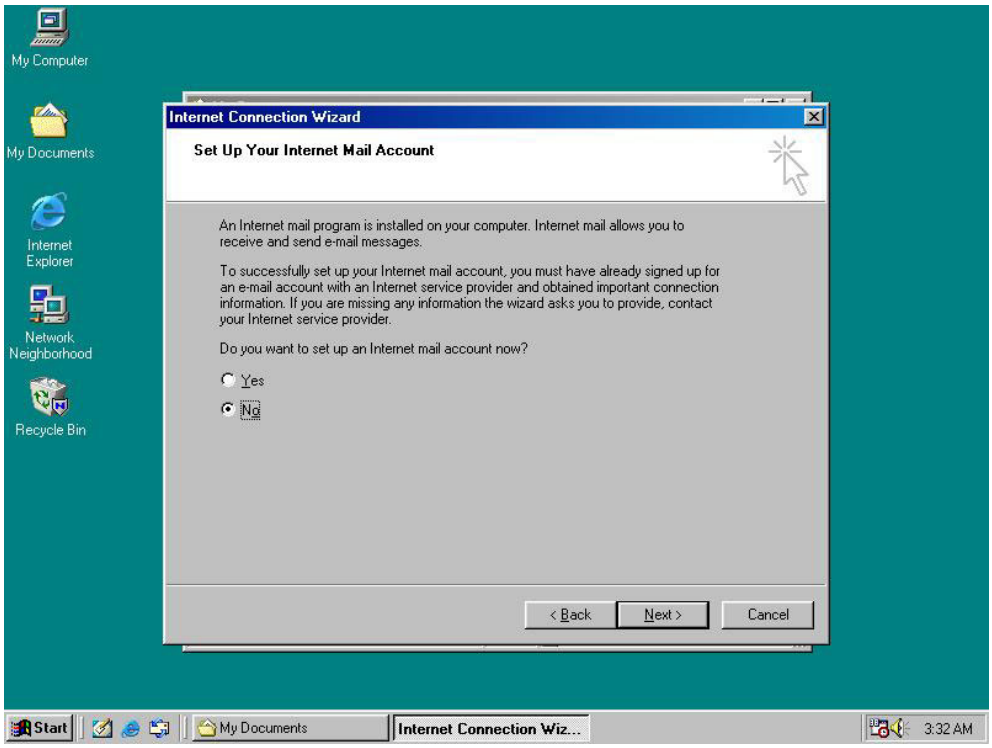
2. The **Internet Connection Wizard** Should open(If this does not open and Internet Explorer Opens up, skip to Section 7) Click "**I want to set up my Internet Connection Manually, or I want to connect through a local area network(LAN)**" click **Next**


My Computer
My Documents
Internet Explorer
Network Neighborhood
Recycle Bin
Internet Connection Wizard
Setting up your Internet connection
If you have an Internet service provider account, you can use your phone line and a modem to connect to it. If your computer is connected to a local area network (LAN), you can gain access to the Internet over the LAN.
How do you connect to the Internet?
I connect through a phone line and a modem
I connect through a local area network (LAN)
< Back
Next >
Cancel
Start
My Documents
Internet Connection Wiz...
3:30 AM

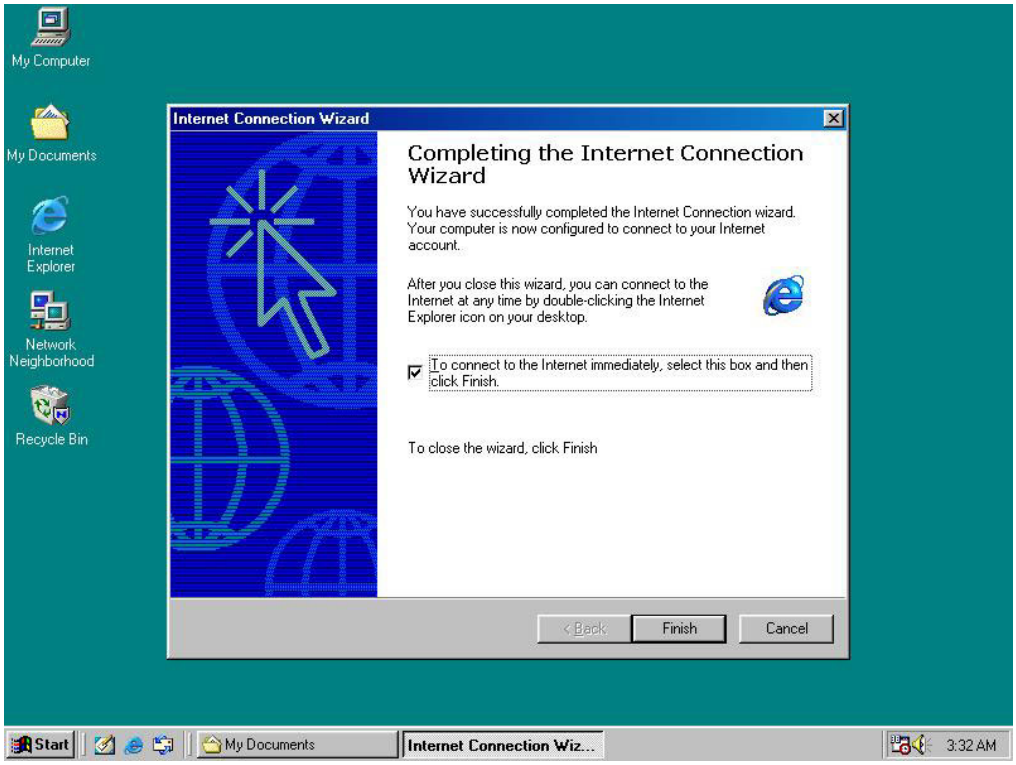
3. Click "**I connect through a local area network(LAN)**" Click **Next**


My Computer
My Documents
Internet Explorer
Network Neighborhood
Recycle Bin
Internet Connection Wizard
Local area network Internet configuration
Select the method you would like to use to configure your proxy settings. If you are not sure which option to select, select automatic discovery or contact your network administrator. Automatic configuration may override manual settings. To ensure the use of manual settings, disable automatic configuration.
Automatic Configuration
Automatic discovery of proxy server [recommended]
Use automatic configuration script
Address:
Manual Proxy Server
< Back
Next >
Cancel
Start
My Documents
Internet Connection Wiz...
3:31 AM

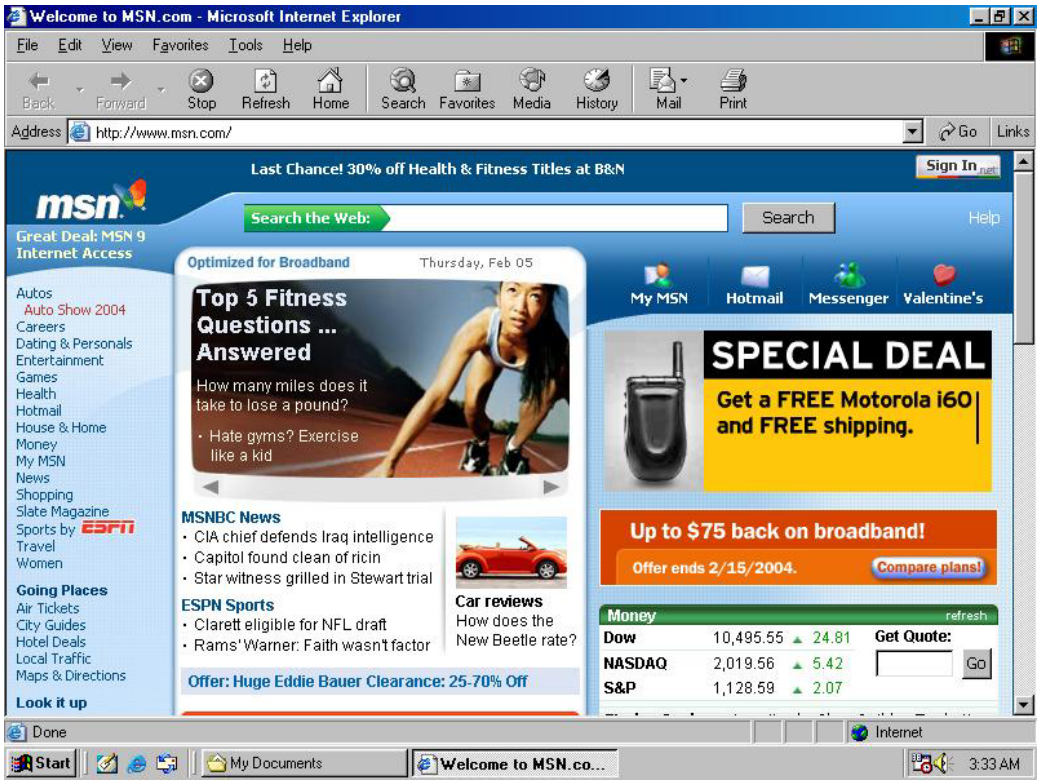
4. Click "**Automatic discovery of proxy server(recommended)"** Click next


My Computer
My Documents
Internet Explorer
Network Neighborhood
Recycle Bin
Internet Connection Wizard
Set Up Your Internet Mail Account
An Internet mail program is installed on your computer. Internet mail allows you to receive and send e-mail messages.
To successfully set up your Internet mail account, you must have already signed up for an e-mail account with an Internet service provider and obtained important connection information. If you are missing any information the wizard asks you to provide, contact your Internet service provider.
Do you want to set up an Internet mail account now?
Yes
No
< Back
Next >
Cancel
Start
My Documents
Internet Connection Wiz...
3:32 AM

5. Unless you want to setup your Email (you can do this separately later) Click **NO**, and click '**Next'**.


My Computer
My Documents
Internet Explorer
Network Neighborhood
Recycle Bin
Internet Connection Wizard
Completing the Internet Connection Wizard
You have successfully completed the Internet Connection wizard. Your computer is now configured to connect to your Internet account.
After you close this wizard, you can connect to the Internet at any time by double-clicking the Internet Explorer icon on your desktop.
To connect to the Internet immediately, select this box and then click Finish.
To close the wizard, click Finish
< Back
Finish
Cancel
Start
My Documents
Internet Connection Wiz...
3:32 AM

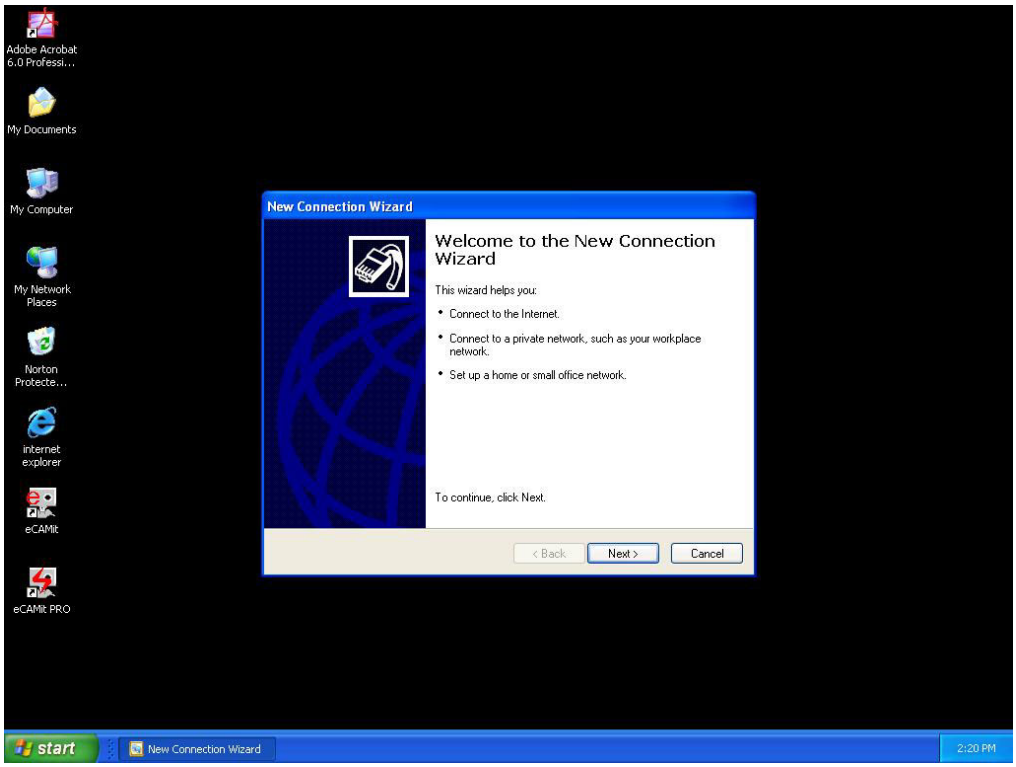
6. Click the box, and click **Finish**



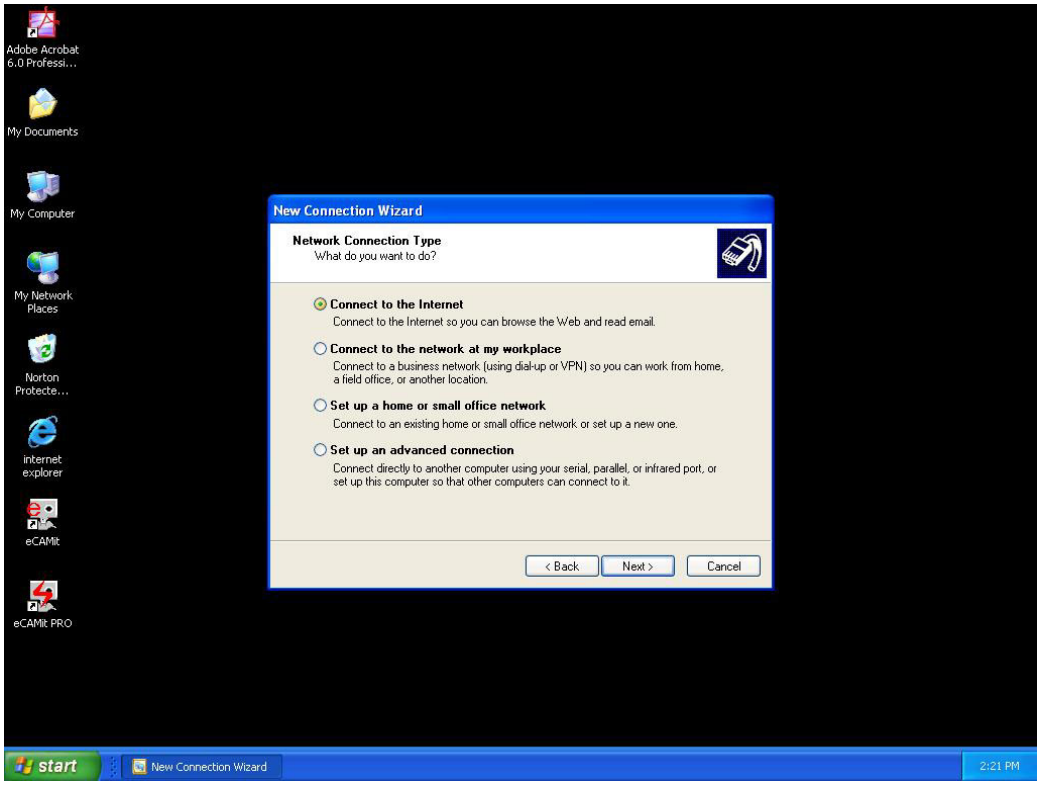
7. You should be on the internet, If a website does not occur Try to **Release IP,** then **Renew IP**, and try to **Ping** your gateway.

Part 2: Windows 2000 / XP

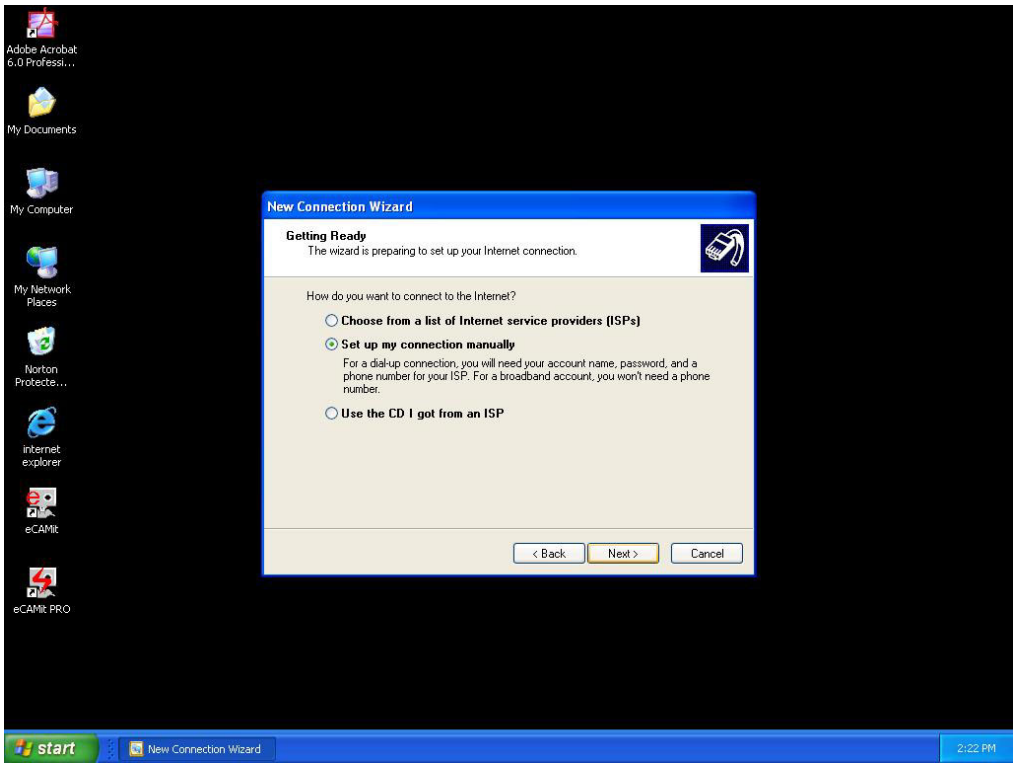
1. Double Click on **Internet Explorer**



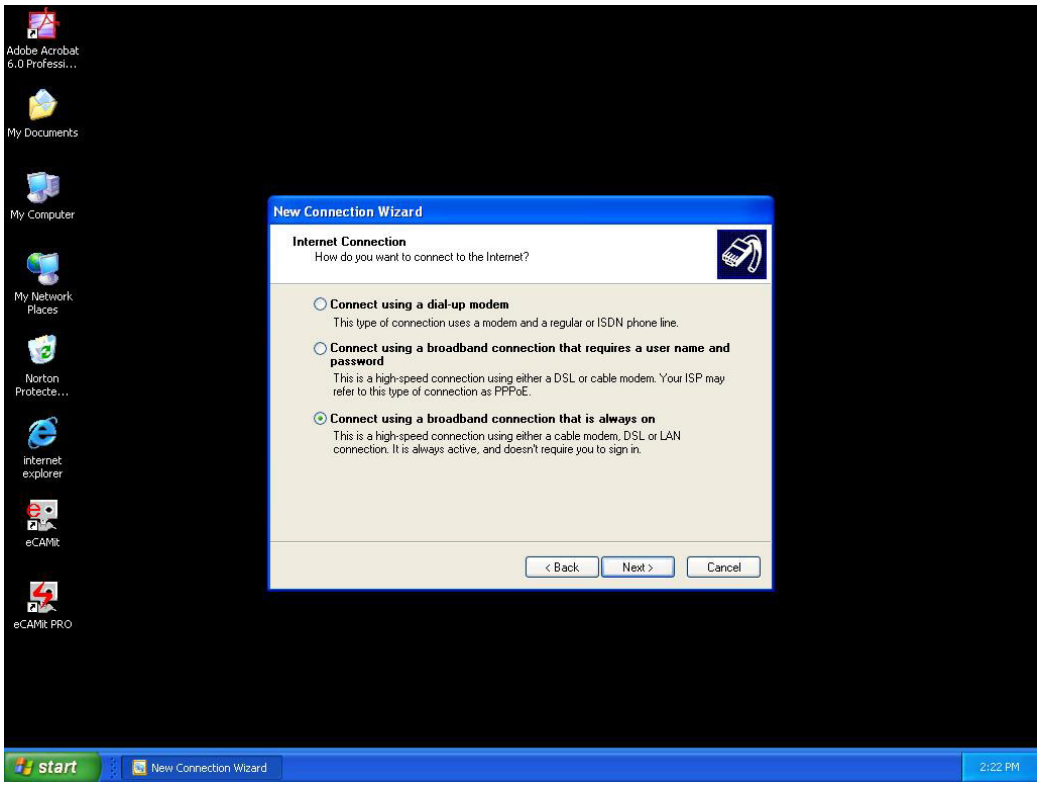
2. The New Connection Wizard might open(If this does not happen, skip to Step 7) Click Next


Adobe Acrobat 6.0 Professi...
My Documents
My Computer
My Network Places
Norton Protecte...
internet explorer
eCAMit
eCAMit PRO
New Connection Wizard
Network Connection Type
What do you want to do?
Connect to the Internet
Connect to the Internet so you can browse the Web and read email.
Connect to the network at my workplace
Connect to a business network (using dial-up or VPN) so you can work from home, a field office, or another location.
Set up a home or small office network
Connect to an existing home or small office network or set up a new one.
Set up an advanced connection
Connect directly to another computer using your serial, parallel, or infrared port, or set up this computer so that other computers can connect to it.
< Back
Next >
Cancel
start
New Connection Wizard
2:21 PM

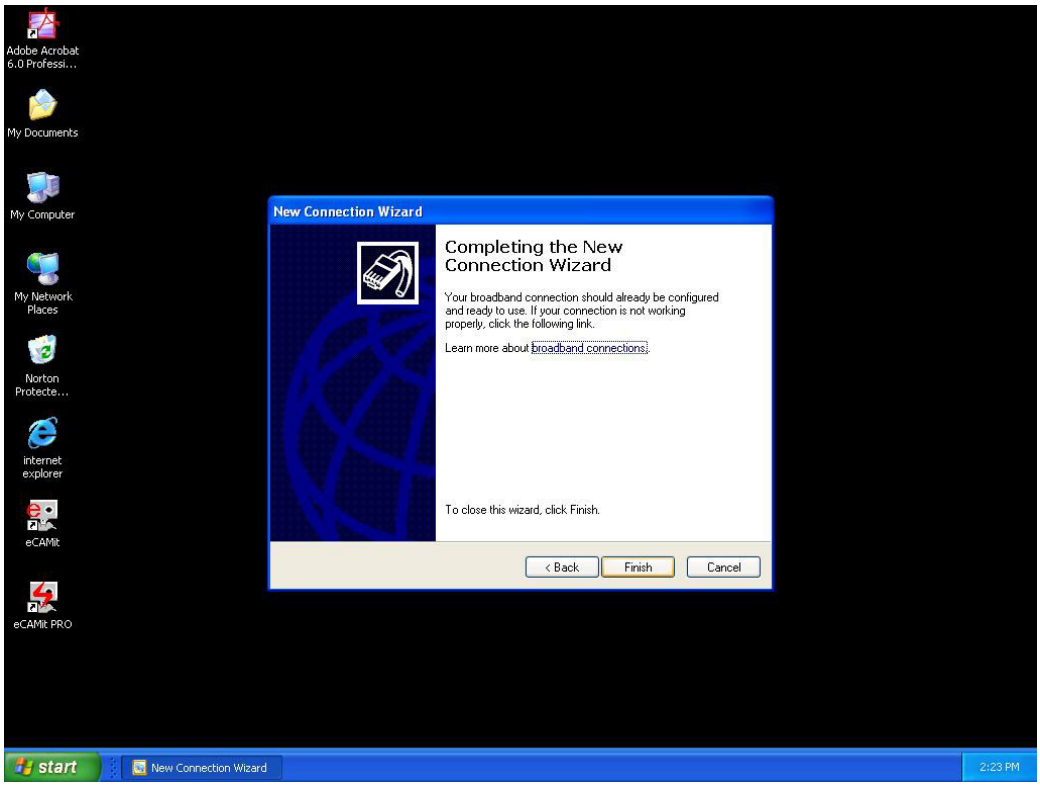
3. Click “Connect to the Internet” and click **Next**


Adobe Acrobat 6.0 Professi...
My Documents
My Computer
My Network Places
Norton Protecte...
internet explorer
eCAMit
eCAMit PRO
New Connection Wizard
Getting Ready
The wizard is preparing to set up your Internet connection.
How do you want to connect to the Internet?
Choose from a list of Internet service providers (ISPs)
Set up my connection manually
For a dial-up connection, you will need your account name, password, and a phone number for your ISP. For a broadband account, you won't need a phone number.
Use the CD I got from an ISP
< Back
Next >
Cancel
start
New Connection Wizard
2:22 PM

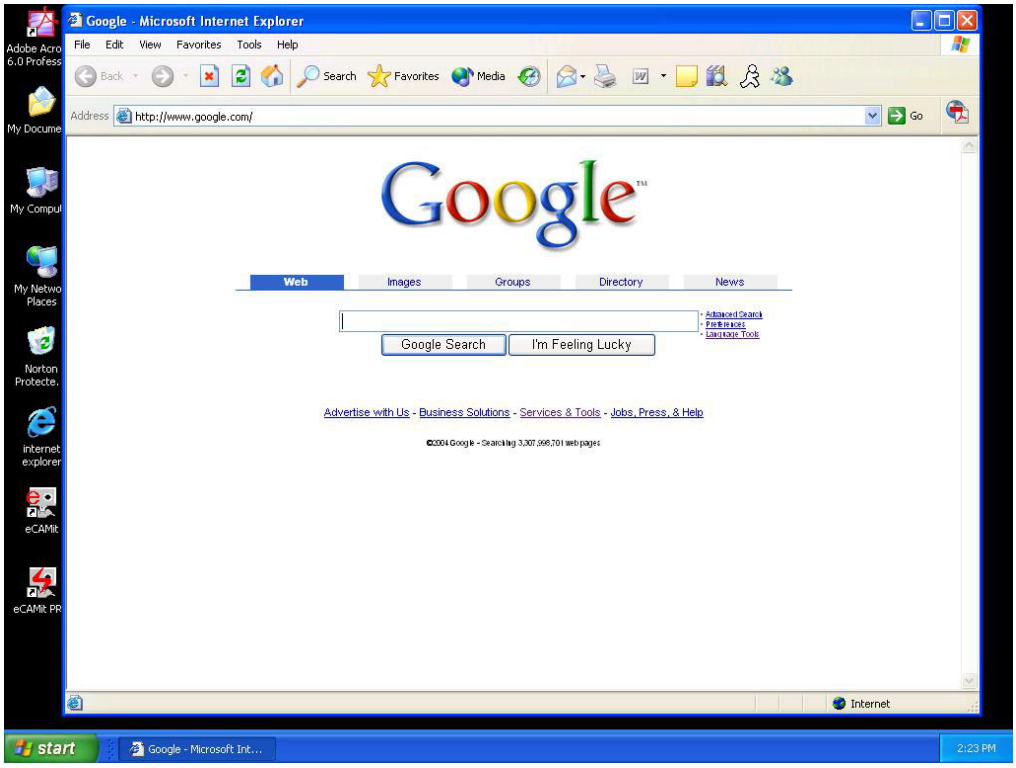
4. Click “**Set up my connection manually”**


Adobe Acrobat 6.0 Professi...
My Documents
My Computer
My Network Places
Norton Protecte...
internet explorer
eCAMit
eCAMit PRO
New Connection Wizard
Internet Connection
How do you want to connect to the Internet?
Connect using a dial-up modem
This type of connection uses a modem and a regular or ISDN phone line.
Connect using a broadband connection that requires a user name and password
This is a high-speed connection using either a DSL or cable modem. Your ISP may refer to this type of connection as PPPoE.
Connect using a broadband connection that is always on
This is a high-speed connection using either a cable modem, DSL or LAN connection. It is always active, and doesn't require you to sign in.
< Back
Next >
Cancel
start
New Connection Wizard
2:22 PM

5. Click “**Connect using a broadband connection that is always on”**


New Connection Wizard
Completing the New Connection Wizard
Your broadband connection should already be configured and ready to use. If your connection is not working properly, click the following link.
Learn more about broadband connections.
To close this wizard, click Finish.
< Back
Finish
Cancel
start
New Connection Wizard
2:23 PM

6. Click Finish


Google - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://www.google.com/
Google
Web Images Groups Directory News
Google Search I'm Feeling Lucky
Advertise with Us - Business Solutions - Services & Tools - Jobs, Press, & Help
Internet
start
2:23 PM

7. You should be on the internet, If a website does not occur Try to **Release IP,** then **Renew IP**, and try to **Ping** your gateway.

Appendix D: Glossary

Default Password
A password set by the manufacturer that is unique to each device and is used to Generate a Default Encryption Key (DEK). The DEK is used only for the purpose of encrypting management commands that change the NEK so that the NEK is never sent in the clear over the powerline.

DHCP
Dynamic Host Configuration Protocol is a method in which IP addresses are assigned by server dynamically to the clients on the network. DHCP is used for Dynamic IP Addressing and requires a dedicated DHCP server on the network.

Encryption Key (EK)
64-bit pattern generated by a key derivation function. An EK is used in an encryption algorithm to add security to transmissions between HomePlug devices in a logical network.

Ethernet
Ethernet is a 10/100Mbps network that runs over dedicated home/office wiring. Users must be wired to the network at all times to gain access.

Gateway
A gateway is a hardware and software device that connects two dissimilar systems, such as a LAN and a mainframe. In Internet terminology, a gateway is another name for a router. Generally a gateway is used as a funnel for all traffic to the Internet.

IEEE
The Institute of Electrical and Electronics Engineers. The IEEE describes itself as "the world's largest technical professional society—promoting the development and application of electro technology and allied sciences for the benefit of humanity, the advancement of the profession, and the wellbeing of our members."

Local Area Network (LAN)
A LAN is a group of computers, each equipped with the appropriate network adapter card connected by cable/air, that share applications, data, and peripherals. All connections are made via cable or wireless media, but a LAN does not use telephone services. It typically spans a single building or campus.

Logical Network
Two or more HomePlug devices that share a common Network Encryption Key (NEK) and that communicate with encrypted transmissions.

Network
A network is a system of computers that is connected. Data, files, and messages can be transmitted over this network. Networks may be local or wide area networks.

Network Password
A password set by the user that generates the NEK and defines the user's logical

network.

RJ-45
A connector similar to a telephone connector that holds up to eight wires, used for connecting Ethernet devices.

Router
Protocol-dependent device that connects subnet works together. Routers are useful in breaking down a very large network into smaller sub networks; they introduce longer delays and typically have much lower throughput rates than bridges.

Powerline Networking
Data transmission over powerlines.

Password
Sequence of characters that serves as input to a key derivation function that generates an Encryption Key (EK).

Protocol
A protocol is a standardized set of rules that specify how a conversation is to take place, including the format, timing, sequencing and/ or error checking.

Static IP Addressing
A method of assigning IP addresses to clients on the network. In networks with Static IP address, the network administrator manually assigns an IP address to each computer. Once a Static IP address is assigned, a computer uses the same IP address every time it reboots and logs on to the network, unless it is manually changed.

Transmission Control Protocol / Internet Protocol (TCP/IP)
TCP/IP is the protocol suite developed by the Advanced Research Projects Agency (ARPA). It is widely used in corporate Internet works, because of its superior design for WANs. TCP governs how packet is sequenced for transmission the network. The term “TCP/IP” is often used generically to refer to the entire suite of related protocols.

Wide Area Network (WAN)
A WAN consists of multiple LANs that are tied together via telephone services and / or fiber optic cabling. WANs may span a city, a state, a country, or even the world.

Appendix E: Product Specification

Computer Interface	IEEE802.3
Network Interface	HomePlug Powerline
Cable Connection:	10Base-T: UTP CAT.3,4,5 100Base-TX: UTP CAT.5
Installation:	Plug-and-Play
LED Indicators:	*PWR:* Power *HP:* HomePlug ACT Link / Act, *Eth:* Link / Act
Certifications:	HomePlug Powerline Specification 1.0
Operating Temperature:	0 ◦ – 40 ◦ C
Humidity:	5% - 90%
Certifications:	FCC Class B / CE Mark
HomePlug Configuration Utility Support:	Windows 98SE/ ME/ 2000/ XP